

# MOTOR AGE

Vol. LI  
Number 24

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Thirty-five Cents a Copy  
Three Dollars a Year

## An Open Letter to Progressive Salesmen of the Industry

by

F. E. Moskovics, President

STUTZ MOTOR CAR CO. of AMERICA, Inc., Indianapolis

**W**E but recently announced the new Challenger Safety Stutz. No car in the history of the industry was ever born under a brighter sun.

This car first created new records for 24 Hours, and for 1000 Miles at the Indianapolis Speedway, April 21-22, and on May 7th, won the first Stock Car Race held in America in fifteen years, at 86.24 miles per hour.

These records would have only a passing significance, excepting that they prove the Safety Stutz the greatest automobile built in America today. That it is the fastest stock car in America is important only in that this fact means a beautiful fifty or sixty mile an hour car.

Every community in America has men who want the superlative in automobiles. The Challenger Safety Stutz is it. Salesmen with brains and energy who know how to market a specialty of this kind can make money. They do not need much capital, but they do need energy.

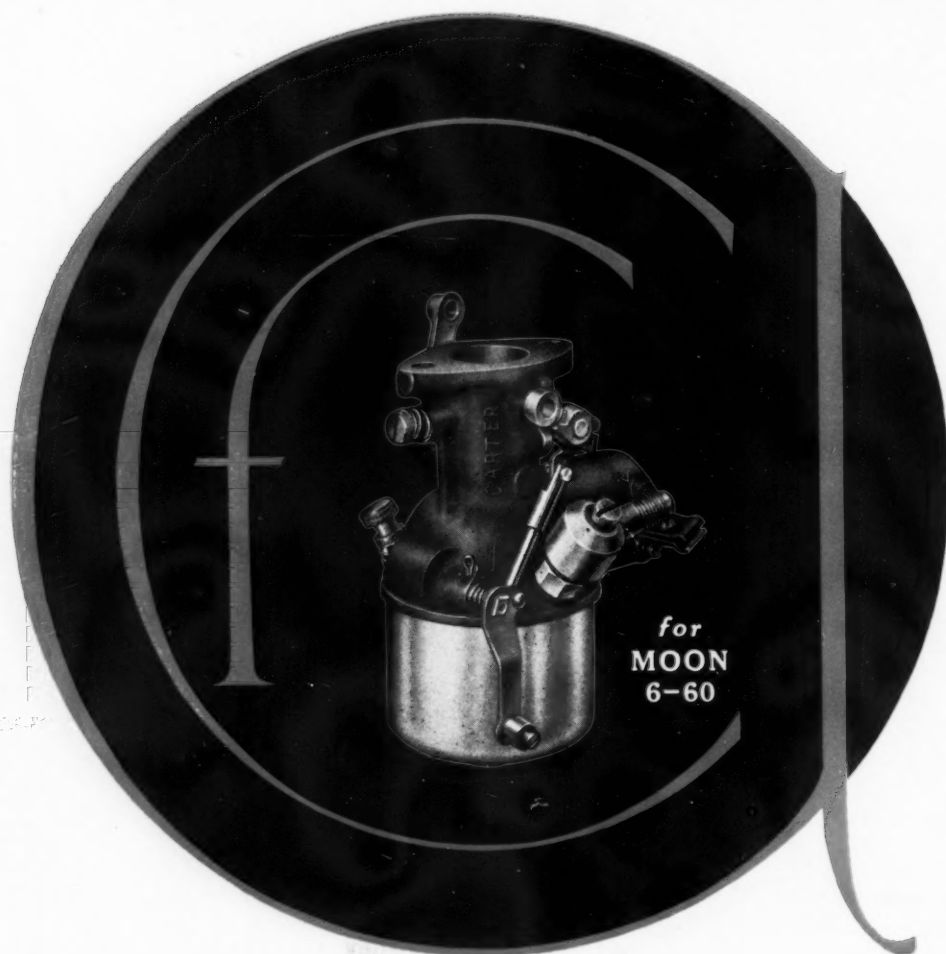
Write me and I will tell you about it.

(Signed)

*F. E. Moskovics*



## SAFETY STUTZ



## The Carbureter—Master Salesman

Some motor car units can be correctly judged only after many miles or long periods of service. But the carbureter must instantly reveal its character in all the demonstration tests of idling, throttling, acceleration and "opening up." Surely carburetion is particularly close to sales — *and to keeping cars sold.*

In these respects Carter carbureters have proven themselves so valuable that now more than one-third of

America's yearly car production is Carter-equipped! Carter design, manufacture, performance, and trade co-operation could be no more positively certified. The obligation to continue in the van of carbureter progress is equally great. Doubly assuring the permanent high place of Carter carbureters are the great resources of American Car and Foundry Company, parent Carter institution.

CARTER CARBURETOR CORPORATION, SAINT LOUIS

# CARBURETER



See the  
Hollow  
Crown!  
That's  
Why



It Can't Slip!

For cars using a flat belt, the Farran-oid Herring-bone. Four plies of specially woven tape, impregnated with a special Farran-oid rubber compound—woven loose in the center and tight on the edges to conform to crown of pulley. Sealed edges prevent ply separation and rubbing. Stronger, yet more flexible because less bulky. Won't stretch or slip.

IF ever a fan belt was truly engineered, it's this Farran-oid Dual-Flex Molded "V" type! It is built around an endless, stretch-proof core of heavy cord and compound—the hollow crown allows it to completely fill the pulley and transmit full power without slippage.

That means thousands of miles without fan belt trouble—real fan belt mileage! You'll stimulate your sales of *all* items if you show your customers how they can save money, time and trouble with Farran-oid Belts.

Ask your jobber about the entire line of Farran-oid products—it's a money-maker and good-will builder!

THE FARRAN-OID COMPANY  
Akron, Ohio

**Farran-oid**  
*Products*

Fan Belts      Radiator Hose      Tire Flaps      Garage Air Hose      Ford Floor Mats  
Car Washing Hose      Tube Patch Outfits      Blow-Out Patches      Universal Tire Plasters

# Here's a tip from Truck Owners on how to sell trucks

Before putting our trucks on Budd-Michelin Dual Wheels it used to take us 10 hours to make a trip. With Budd Duals we can make the same trip in 6½ hours—

*(Mushroom Trans. Co., Kennett Sq., Pa.)*

Our repair and maintenance costs are negligible. We haven't had to get under a single truck to tighten bolts or parts since we changed to Budd Duals—

*(Coogan's Lakeshore Delivery, Dunkirk, N. Y.)*

Although our loads average between four and five tons, we get as high as 25,000 miles from a set of tires on Budd Duals—

*(Mattingly Truck Co., San Diego, Cal.)*

Budd Duals have reduced our tire cost 25%—

*(Mellway Brothers, Toronto, Can.)*

The lower body-suspension which Budd Duals make possible is a great help in loading and unloading—

*(Sterling & Welch Co., Cleveland, Ohio.)*

The increased traction of Budd Duals permits us to travel over roads that would otherwise be impassable, and our loads are carried safely, without breakage—

*(A. Harvey's Sons' Mfg. Co., Detroit, Mich.)*

We have operated our Budd Dual-equipped fleet over a million miles, and have never experienced a wheel failure, or replaced a wheel for any cause—

*(Cornhusker Stage Lines, Hastings, Neb.)*

Budd Duals are much easier to clean. We expect to equip all our trucks with them—

*(J. B. Van Sciver Company, Camden, N. J.)*

**BUDD**  
WHEEL COMPANY  
*Detroit*

YOUR MANUFACTURER will deliver any job on Budd Duals—talk it over with him



# MOTOR AGE

Vol. LI

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Established 1899

No. 24

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## A Sales Point of Real Merit! CRANKSHAFT

by  
**WYMAN-GORDON**  
*The Crankshaft Makers*  
Worcester, Mass.  
Harvey, Ill.





# Big Space in The Chicago Tribune insures BIG SALES in the CHICAGO TERRITORY

**M**OLTEN METAL pours out of giant buckets, punch presses throb, hundreds of motors shiver on their testing blocks, bodies drop down in place on waiting chassis—America is buying 3,500,000 automobiles. And one out of every five must be sold in the Chicago Territory.

Imagine a market that spent 750 millions for motor cars in 1926—an area whose citizens sit at the wheel of 21.7% of all the automobiles which skim the traffic lanes of the United States. Picture a purchasing power that bought 680,000 cars in 1926 out of a net income of sixteen billion dollars. No wonder Zone 7—prosperous Chicagoland—has become the focal market for motor cars.

The men who stand at the flood-gates of automobile production know what the Chicago Territory means in the merchandising of their mounting output. They realize that buyers are found where prosperity is sound, where soil is fertile and factories are humming, where bank and savings deposits evidence indisputable wealth.

In 1926 the wage-earners in Zone

7 received eight billion dollars. *They will buy automobiles in 1927.* The stockholders in this same rich area received one billion in dividends. *They will buy automobiles in 1927.* The farmers in Zone 7 sold their total crop production for a billion and a half. *They will buy automobiles in 1927.* 1926 found prosperity concentrated in the Chicago trading area—1927 is good!

The story of The Tribune's supremacy as a seller of automobiles in every price class has been written in the sales records of the automobile manufacturers who have used dominant space in this great newspaper. Striking space in The Tribune has invariably

resulted in surprising stimulation of sales.

With its 70 billions of assets, there is no market so easy to win—if you use commanding space consistently in The Chicago Tribune. By concentrating in this one newspaper you can influence 1,182,000 able-to-buy families—96% of them in the wealthiest counties of Illinois, Indiana, Iowa, Michigan and Wisconsin.

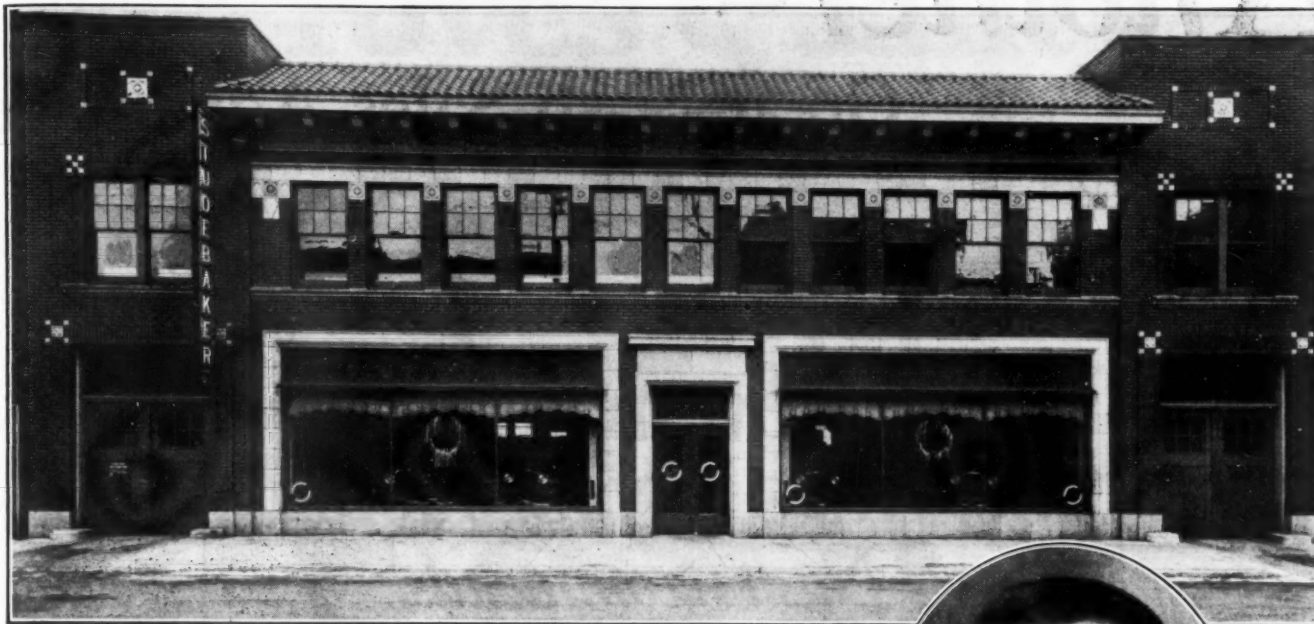
The seven hundred and fifty million dollars spent for automobiles in Zone 7 in 1926 will be surpassed in 1927. To make sure that you get your share, make sure The Tribune is written large on your advertising appropriation.

## Chicago Tribune

THE WORLD'S GREATEST NEWSPAPER

Circulation: 761,548 Daily; 1,182,602 Sunday

# Racine Buyers Know Motor Car Values



The present showroom of the Century Motor Company

1927 is the eighth successful Studebaker year of the Century Motor Company at Racine, Wisconsin.

W. E. Wholihan, president of the Century Motor Company, said, "We are more than pleased with our Studebaker franchise in Racine. Other lines were investigated before we signed this contract. The added quality built into Studebakers—the way Studebakers stood up under hardest use—decided us.

"Cooperation given our sales and service departments by the factory has always been helpful."

If Studebaker—and the Erskine Six



W. E. Wholihan,  
President Century  
Motor Company

—are inadequately represented in your territory, or not at all, write or wire today for full information. Your inquiry will be kept confidential. Address Department 51, The Studebaker Corporation of America, South Bend, Indiana.

# STUDEBAKER

## ERSKINE SIX



Two franchises in one—offering cars from \$945 to \$2495



# Another—

## Great Nash Sales Advantage

How many main  
bearings in your motor  
car? *Nash recommends* **7**

*Because* for the finest and smoothest performance results, you need 7, rather than 3 or 4.

Obviously, 3 or 4 supports for a crankshaft cannot give it the rigidity and smoothness of 7. That is why Nash—with customary engineering progressiveness—has developed the 7-bearing motor for *all* Nash models.

And smoothness is not the only advantage of this Nash engineering achievement.

A crankshaft that “whips” because of inadequate bearing support must eventually loosen its bearings and require expensive shopwork. The 7 bearings of Nash prevent this.

*The 7 bearings of Nash also achieve*

*power-smoothness and quietness with no sacrifice of acceleration.* In fact, the proper support of the crankshaft decidedly improves the energy and aggressiveness of the car.

Nash changed to 7 bearings even though large expenditures were required for new precision equipment, because 7 bearings give Nash owners a better, smoother, more powerful motor car. One that is keen on the throttle, with a fluid quickness of acceleration not found in older motor types.

Here is another fact to remember about the 7 bearings of Nash:

*They have more bearing surface, by actual measurement, than other 6-cylinder motors in the Nash price-field with 4-bearing crankshafts.*

# NASH

*Leads the World in Motor Car Value*



# Endurance Proves Quality



New Departure Ball Bearings

George Souders  
Winner Indianapolis Motor Speedway Classic 1927

## New Departure Ball Bearings Win Again!

In fact, 28 starters used them exclusively—a total of 1548 New Departures in every possible bearing position.

Why this overwhelming preference?

Because New Departures are the only type that *could* possibly withstand successfully, these terrific loads, shocks, and speeds; and deliver the last ounce of power to the wheels.

Freest from friction, from wear; carry greatest loads, permanent alignment (no readjustments)—good for the life of the car. That is why more New Departures are sold than any other bearing—why they are used exclusively in America's best selling cars.

For the last word in bearing efficiency, insist on New Departures.

THE NEW DEPARTURE MFG. CO.  
BRISTOL, CONNECTICUT  
Detroit Chicago

679



# Amazing Public Preference and Fair Dealing

*Make Chrysler Franchise Most Desirable  
Dealer Connection*

The overwhelming public preference for Chrysler in each of the four great price fields from \$750 to \$3595, which has swept the Chrysler organization to fourth place—

—together with equitable sales and service policies, and the accounting assistance it renders—

—today make Chrysler one of the most desirable and eagerly-sought dealer franchises in the country.

Opportunities are still available to participate in this most amazing success.

# CHRYSLER

# MOTOR AGE

VOLUME LI

Philadelphia, Pa., June 16, 1927

NUMBER 24

## Late Summer Sales Expansion is Seen

Market Stimulus Expected After New Model Uncertainty is Disposed of

### PRODUCTION IS CUT

NEW YORK, June 16—The curtailment in automobile production this month, although to some extent a normal seasonal development, has been accentuated by a pronounced slowing up in sales. This is attributed to Ford's announcement of an impending new model, as the lower priced classes have been affected most by the current apathy of buyers.

In most quarters it is confidently expected that the late summer this year will show a big sales expansion comparable to that of a year ago. Once uncertainty over new models is disposed of, it is held, the market will receive a marked stimulus.

The price situation is being most closely watched. There has been no evidence of a distinct price trend, although in the readjustment of schedules there may be one or two changes in the near future in addition to those recently announced. Most of the producers are against price cuts and some would make advances if the opportunity presented.

The manufacturing cost situation, both as to labor and materials, is favorable to lowered prices, but volume except in a very few instances has not made recessions feasible. Profits per unit are averaging lower this year than last, and even then most companies were on a very narrow profit margin.

The used car situation is better now than at the outset of the selling season, as was to be expected, but it is by no means satisfactory and increases in stocks to undesirably high figures later on in the year are predicted in many quarters.

### Tire Prices Cut 5%

AKRON, June 15—Goodyear Tire & Rubber Co. has reduced prices on its Pathfinder tires about 5 per cent to meet the recent reductions in price made by mail order houses. Other leading manufacturers followed the Goodyear action.

The tires affected are principally the 3½ in. sizes in the fabric group, but the trade is uncertain as to the trend of prices on other sizes and types.

### July Schedule of Essex 1350 Daily

DETROIT, June 13—Following a lull in production to make certain factory changes, the Hudson Motor Car Co. resumed heavy schedules today with 850 Essex cars a day and increasing 100 cars a day until 1350 automobiles a day, or the July schedule, is reached. The new schedule for Hudsons will be 300 a day.

## Hertz Drivursel Takes in Trucks

CHICAGO, June 14—Extension of the Hertz Drivursel Auto Service to include truck transportation was initiated last week according to C. W. Litsey, vice-president and general manager. The company's four most central stations have been selected to set this activity in motion.

The same conditions governing car rentals will apply to truck renting, Mr. Litsey said. Any one whose name appears in the telephone directory may rent one or more trucks and those not listed will be accommodated by giving references.

In the new service the Chevrolet ton trucks and the new G.M.C. T-20 ton trucks with Buick engine are offered at rates ranging from 22 to 25 cents a mile, or at daily rates of \$7.50 to \$8.50. Discounts are allowed on weekly and monthly arrangements.

The service is expected to appeal especially to small business concerns that need a truck only a day or two a week and to fleet owners who have occasional need for more trucks than they would be justified in owning. Renters are covered by insurance without additional cost.

### Buick Delivers 30,000

FLINT, June 15—Buick Motor Co. in May delivered at retail approximately 30,000 cars or about the same number as in May, 1926. Production during the month was about 20,000 cars as against 27,000 in April.

### Chandler Makes 68% Gain

CLEVELAND, June 14—Shipments of Chandler-Cleveland Motors Corp., in May were 68 per cent larger than in the same month of last year and the heaviest of any month this year.

## American Chain Co. Purchases Manley

Acquisition Gives Former Complete Line of Equipment and Accessories

### DETAILS LACKING

BRIDGEPORT, CONN., June 16—Of far-reaching importance to the entire trade is the announcement of the American Chain Co., Bridgeport, that it has purchased the Manley Mfg. Co., of York, Pa. Details of the purchase have not been made public.

During the past few years the famous line of Manley garage and service station equipment has been extended to include practically every piece of machinery needed by both large and small garages. The well known line of Manley presses and testing machines has been supplemented to include hydraulic jacks, tire inspectors, tire spreaders, cranes, trolley hoists, washing outfits, dollies, wrenches, tow poles, greasing runways, air and water stands and countless other devices necessary as service station and garage equipment.

The acquisition of the Manley Mfg. Co. by the American Chain Co. now gives the latter a complete line of equipment and accessories, and puts it in the forefront among suppliers to automotive jobbers and dealers.

## Kirkland Heads A.E.A.

### Accessory Division

CHICAGO, June 13—Following the appointment of Martin E. Goldman as manager of the shop equipment division of Greater Market Development Bureau of the Automotive Equipment Association, announcement is made by Harry G. Mooock, managing director of the bureau of the appointment of Henry T. Kirkland as manager of the accessory division.

James H. Collins, who was recently announced as manager of the accessory division, has taken over the work of the commercial information division.

Mr. Kirkland, during the past year, has been zone manager of the merchandising division of the A.E.A. in the eastern states.

## Chevrolet Sets May Record

DETROIT, June 16—May production of the Chevrolet Motor Co. exceeded the original schedule of 114,000 automobiles, and established a new monthly production record for the company.



## Output of Auburn Equals All of 1926

Net Earnings for First Five Months to Approximate Last Year's Total

NEW YORK, June 15—In connection with the declaration of Auburn Automobile Co. of the regular quarterly dividend, payable July 1 to stockholders of record June 20, E. L. Cord, president, made the following statement:

"During the first five months of the calendar year 1927 our production and sales of automobiles was almost equal to the entire production for the year 1926, and net earnings have been most satisfactory, closely approximating the total earnings for 1926. An audit of the company's books for the first six months of the present fiscal year ended May 31 is being made, and the actual results should be available for the stockholders' meeting June 22.

"As of May 31 the company is in an exceptionally strong financial position, having on hand cash or its equivalent (call loans, etc.) amounting to over \$2,800,000 and no bank indebtedness. The company's production in 1925 doubled 1924, that of 1926 was 65 per cent ahead of 1925 and the first five months of 1927 nearly equal to the 1926 total.

"Since 1925 a large proportion of the earnings have been retained in the business as working capital, and it is felt that this policy has been greatly to the benefit of the stockholders."

Mr. Cord also stated that in his opinion Auburn's greatest growth would take place during the coming 18 months, which makes advisable a continuance of the same conservative policy. Mr. Cord refused to make any comment on the possibility of additional dividends.

### Williams Splitdorf Field Man

NEWARK, N. J., June 16—W. H. Williams has been added to the Splitdorf Electrical Co., field service division. Mr. Williams is at present traveling Pennsylvania and adjacent states, calling on Splitdorf service stations, branches, highway departments, agents and distributors of manufacturers using Splitdorf automotive equipment.

### Snow Quits Velie

MOLINE, ILL., June 16—Herbert G. Snow, of Davenport, for the last three years chief engineer for Velie Motors Corporation, has resigned his position. His successor has not been appointed. Mr. Snow made no announcement of his future plans except that he is considering another position.

### Jones Takes Over Essex

UNION, S. C., June 15—W. L. Williams, of Cherryville, N. C., has succeeded the Jones Motor Co. as local Ford dealer. The latter concern has taken over the agency for Essex.



**Donald Ross**

*Who has been elected vice-president in charge of finances of the Splitdorf-Bethlehem Electrical Co.*

## Shimmin and Caldwell are Link Appointees

CHICAGO, June 16—R. P. Shimmin has been appointed assistant to the chairman and to the president of the Link-Belt Co. and will make his headquarters at 910 S. Michigan Ave. Frank B. Caldwell has been appointed sales manager with headquarters at the Chicago plant. He will have supervision over western division sales activities.

## Export Club Elects

DETROIT, June 16—The export Club of Detroit has elected Samuel Fitzpatrick, export manager of the Federal Motor Truck Co., president for the coming year. The club's membership is growing rapidly and it is expected, will have 100 on the roster by fall.

### Wright is Velie Representative

MOLINE, June 16—Velie Motors Corp., has appointed A. L. Wright, of Birmingham, Ala., as district representative for the states of Tennessee, South Carolina, Mississippi, Georgia and Alabama. Mr. Wright has been in the automotive field for 15 years and because of his position as territorial supervisor for the past six years for the Chevrolet and Willys-Overland, Inc., he has a wide acquaintance among the dealers in that section.

### Rockwell Called to Duty

OSHKOSH, WIS., June 13—W. F. Rockwell, president of the Wisconsin Parts Co., manufacturing axles and other automotive units, was called to active duty as a major in the Officers' Reserve Corps on June 1. He has gone to Washington for an indefinite period. Major Rockwell has been connected with motor transport work for many years.

## Crosses Continent Twice in 168 Hours

Chrysler 80 Sets New Round Trip Transcontinental Mark  
—Miller is Driver

DETROIT, June 13—A round trip transcontinental automobile record in a Chrysler 80 phaeton was established last week, the Chrysler Corp. announces, when L. B. Miller, owner of the car, arrived in Los Angeles, having driven to New York City and back to the Pacific Coast in 167 hours and 59 minutes, a minute less than seven days.

The start was made from San Francisco on May 31 with the intention of breaking the transcontinental round trip record. In doing so, however, Miller also broke his previous one-way record by 3 hours and 17 minutes. His time for the 3385 miles of Lincoln Highway from San Francisco to New York was 79 hours and 55 minutes.

Miller stopped in New York one minute, only long enough to have his time card officially stamped. On his return he took a southerly route by way of the National Old Trails, and traveled the 3336 miles to Los Angeles in 86 hours and 20 minutes.

J. E. Wieber, of Portland, Ore., was Miller's companion on the trip, which was arranged by the Stover Signal Engineering Co. to demonstrate the value in night driving of the Ilco-Ryan headlight.

## Chanter Promoted

SOUTH BEND, June 16—Arthur J. Chanter, who has been acting as assistant to the president for the past four years, has been appointed purchasing agent of the Studebaker Corp. of America and subsidiary companies with headquarters at South Bend. Mr. Chanter entered Studebaker's employ 15 years ago as a clerk, and held several important positions, including that of assistant to the vice-president in charge of manufacturing, prior to becoming assistant to Mr. Erskine at South Bend.

Frederick A. Wade, former purchasing agent of the corporation, resigned his position after many years' service.

### Drake Goes to S & M

LOS ANGELES, June 15—W. P. (Billy) Drake, for many years west coast representative of the Larkin Co., was recently appointed general sales manager of the S & M Lamp Co., of Los Angeles, manufacturer of automotive auxiliary lights.

### Hassler Picks Bruns & Collins

CHICAGO, June 16—The Hassler Mfg. Co. has named Bruns & Collins as distributor for the Chicago territory. The firm of Bruns & Collins is well known to the trade, having had a long and successful experience in merchandising a number of popular accessories.

## Insurance Rates in Kansas City Raised

Underwriters Blame Carelessness for High Rates—  
No Allowances

KANSAS CITY, June 13—Theft insurance rates on motor cars in Kansas City were advanced recently by the companies doing business in this city. Underwriters declare the new rates are high but also assert that carelessness on the part of motor car owners in Kansas City has increased and made the advance in rates necessary.

Under the old schedule, cars equipped with wheel locking devices were subject to a lower rate. Under the new schedule no reduction is made for such safety appliances. The rates, underwriters say, is much higher than in St. Louis. The following is a comparative schedule of the old and new rates, based on \$100 insurance:

Make of Car	Old Rate		New Rate
	With Lock	Without Lock	
Essex .....	\$2.29	\$2.70	\$2.65
Hudson .....	3.25	3.95	3.85
Nash .....	1.85	2.05	2.40
Oldsmobile ....	2.26	2.65	3.15
Studebaker ....	2.37	2.85	2.40
Pierce-Arrow ..	.70	.70	.75
Stutz .....	1.55	2.80	1.30
Ford .....	5.34	6.15	6.90
Chevrolet .....	3.70	4.40	4.90
Marmon .....	2.81	3.35	1.50
Buick .....	2.00	2.50	2.65
Cadillac .....	1.99	2.40	2.05

The new rates are subject to revision at the end of six months, according to the underwriters.

Records of the motor theft bureau of the police department here show that more than 90 per cent of all motor cars reported stolen since Jan. 1 have been recovered.

## Velie Covers 818 Miles in 16 Hours for Record

OGDEN, UTAH, June 14—R. E. Maus, Velie distributor in Ogden, and George V. Tribe, his salesman, both amateur drivers, recently established a new speed record in a thrilling, non-stop drive from Ogden to Los Angeles in a Velie Model 60 stock sedan.

The total distance—818 miles—including 100 miles of detoured roads was covered in 16 hours and 9 minutes—an average of nearly 51 miles per hour, thereby beating the best previous average speed of 49 miles. On one stretch of road the Velie made 150 miles in 124 minutes.

## Acme Expands Plant

CLEVELAND, June 16—The Acme Electric & Manufacturing Co. has acquired 12,000 sq. ft. of floor space in order to handle the increase in sales of its radio products. The latest machinery and equipment are being installed to expedite production.

## Favor Connecticut Responsibility Law

BOSTON, June 14—New Hampshire, Vermont and Rhode Island have refused to follow the lead of Massachusetts with a Compulsory Insurance Law. New Hampshire had a bill exactly like the Bay State one, but after sending people to Boston to get some first-hand information, its legislature turned to the Connecticut "Financial Responsibility" statute and that was passed.

When Vermont considered the law it followed New Hampshire's lead. And now Rhode Island has joined the other states by passing the Connecticut law, making four New England States operating under it.

## Travis Assumes Charge of Peoria Association

PEORIA, ILL., June 13—Rollen Travis, president of the Travis-Cadillac Co., was elected president of the Peoria Automobile Dealers Association last week. He succeeds Bruce Rutherford of the Kinsey-Rutherford Co. Other officers elected at the directors' organization meeting are: C. A. Roadstrum, vice-president; John Freed, secretary; L. E. Graham, treasurer, and C. W. Coons, executive secretary.

## Burtch Replaces Sauve

SEATTLE, June 14—Bryan Burtch, who has been in the automobile business in Seattle for several years, has been named assistant sales manager by T. D. Davies & Son, Seattle, western Washington distributor of Falcon-Knight cars. Burtch replaces C. B. Sauve, who has become a Falcon-Knight dealer at Aberdeen, Wash.

## Ford Ad Campaign Will be Extensive

PHILADELPHIA, June 13—Ford Motor Co. will embark on an extensive advertising campaign to promote the sale of its new car, according to N. W. Ayer & Son, which has been awarded the contract to handle all advertising on the Ford car, Fordson tractor and the products of the airplane division of the Ford company. The Lincoln car is not included.

The Ayer company is now conducting a wide survey to determine the selection of mediums which will be used in promoting the sale of the car.

## Bay State Sales of Cars Gain Slightly

Trucks Lose 9 Per Cent in First Five Months—May, However, Sees 16% Loss

BOSTON, June 16—Motor car and truck registrations in Massachusetts up to June 1, completing the first six months of the state fiscal year, which covers December to May inclusive, shows that while the cars increased less than 1 per cent the loss of trucks was as high as 9 per cent.

May took a decided downward curve, the loss being 16 per cent. This was divided between a loss of 9035 cars, or 13 per cent, and 1740 trucks, or 31 per cent. In April the increase had pyramided so that the deficit of the early months, such as February and March, was wiped out, and it began to look then as if the corner had turned. May started off with April's lead giving the spring months a lead of 15,395 cars. But the loss of 8042 trucks for the same period brought the total increase down to only 7353.

Then May completed the flop with its total decrease of 10,775 under May of 1926. So the figures now show that June will have to jump ahead to first wipe out the deficit handed on to it of 3481 vehicles before it can start to make its own comparable record for 1927.

There is no doubt but what the Compulsory Insurance Law has had much to do with this drop. The taxicabs have dropped from 818 last year to 374, or about 54 per cent. Owners could not stand the high insurance rates. And owners of small cars that were registered for \$10 a year ago and have to pay \$41 today in the Boston district are less numerous. It is the same story with truckmen, whose average for insurance and registration taxes is around \$400. Motorcycles, too, are away off. And so are the state funds. Here are figures worth considering:

December to May inclusive:			
	1926	1927	
Cars .....	562,982	569,283	
Trucks .....	92,112	82,330	
Totals .....	655,094	651,613	
	May	1926	1927
Cars .....	62,105	53,070	
Trucks .....	5,588	3,848	
Totals .....	67,693	56,918	

## Hoyle Buys Lambeth Branch

GASTONIA, N. C., June 16—The Hoyle Motor Co., of this city, recently organized with an authorized capital of \$50,000, has taken over the business here of the Lambeth-Eskridge Motor Co., of Charlotte, Dodge dealer. W. F. Hoyle, of Lincolnton, N. C., is president and general manager of the new concern; Hal Hoyle, of Lincolnton, is vice-president, and George D. Eskridge, of Charlotte, is secretary and treasurer.



## Michigan Sales for First 4 Mos. Drop

52,929 Total Compares With 62,117 in 1926—Wayne County Heavy Loser

DETROIT, June 14—Passenger car sales in Michigan in April totaled 19,847 compared with 24,587 for April, last year, according to statistics compiled by the Michigan Automotive Trade Association. Sales during the first four months of the year totaled 52,929 compared with 62,117 for the same period in 1926.

A study of the sales figures shows that the bulk of the loss in automotive sales in Michigan are being suffered in Wayne county, which embraces greater Detroit. In April 6332 cars were sold in the state compared with 10,509 during the same month, last year. Sales in Wayne during the first four months were 18,628 compared with 26,722, last year. Much unemployment in Detroit factories, compared with a year ago, is believed the reason for this condition.

Figures for the first four months reveal that Ford has lost heavily in sales volume in Michigan. Sales were 9673 compared with 21,777 last year. Chevrolet, on the other hand, has made large gains, selling 12,935 cars during the first four months compared with 8010 last year. Dodge Brothers sales were 1535 compared with 4744, last year. Others in the medium priced field follow: Essex, 5525 compared with 3762; Pontiac, 3529 compared with 1326; Star 603 compared with 1294; Whippet, 1785 compared with 1488; Chrysler 50, 1297 compared with 1374.

### Harbison Distributes Dodge

COLUMBUS, OHIO, June 13—H. L. Harbison, with temporary show rooms and service station at Main and Front Sts. has been made central Ohio distributor for the Dodge line of cars. The Charles Zimmerman's Sons Co., re-



This is the new location of H. G. Pendell, Inc., Elcar dealer, at 1253 S. Hoover St., Los Angeles. The design takes advantage of natural light

cently gave up the distributing agency after handling it for 14 years. Mr. Harbison will soon announce a permanent location.

### Car to Every 5 Persons in Franklin County, Ohio

COLUMBUS, OHIO, June 13—There is one passenger car to approximately every five people residing in Franklin county, according to a report of A. J. Thatcher, county auditor covering the period up to June 1. An estimated increase in motor cars of about 12 per cent for the year is based on the records up to that time. The total number of motor vehicles registered to June 1 was 82,228. Registration fees collected amounted to \$570,100.37.

### Fisher Company Relocates

CINCINNATI, June 14—The Charles A. Fisher Co., Goodrich tire dealer, has moved from 922 Race St., to its new location at 316-20 Reading Road. Complete vulcanizing has been installed and a new and improved battery service will be offered for both trucks and passenger cars in the new quarters of the company.

## Fair May Business Done in Oklahoma

OKLAHOMA CITY, June 14—The early part of May was by far the best period this year for automobile men in Oklahoma, according to released figures and survey. In the latter part of the month a lapse was felt by nearly all distributors and dealers, a few excepted.

The Buick and Chevrolet sales showed a decided climb over last year's averages.

In the light car field, business has not been as progressive as toward the first part of the month. No doubt Henry Ford's announcement of a new model car accounts for this, as prospective buyers are awaiting its appearance. Chevrolet and the new Whippet are getting their share in the light car field.

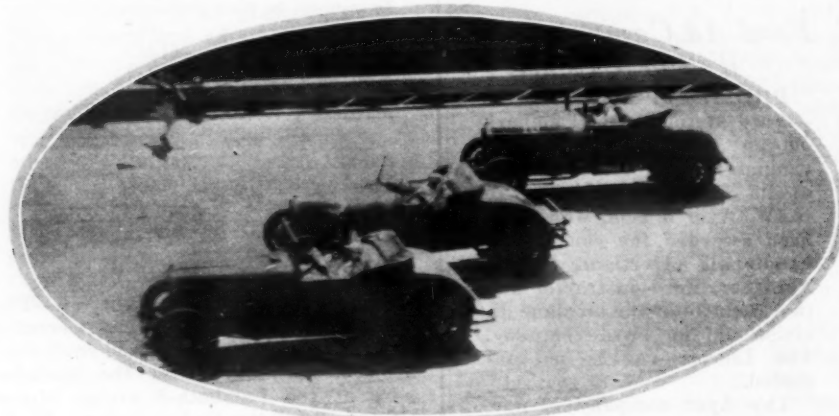
In the truck field results were fine. This is due to new transportation and to new oil field lines being constantly added.

As a whole throughout the month the used car sales predominated, with medium and higher priced cars taking special place. Low priced cars have always sold steadily in Oklahoma City and in the territory surrounding the capital, however.

### Ford Slumps in Spokane

SPOKANE, June 14—As a result of the persistent rumors, confirmed toward the latter part of the month, of a new Ford, and the increasingly stiff competition by such lines as the Star, Whippet and Chevrolet, Ford registrations in Spokane county during May fell off by almost 50 per cent as compared with May, 1926.

For the five months period this year total registrations were 2033 compared with 2322 a year ago. For May the total was 552 compared with 486 in the same month of 1926. Dealers and distributors in eastern Washington and northern Idaho anticipate greater volume during the summer and early fall months than a year ago.



The thrilling finish of the Atlantic City Speedway stock car race. The leaders are shown grouped as they flashed past the finish line. In the order in which they finished they are: Stutz, which covered the 75 miles in 52 min., 10.54 sec., or an average of 86.247 m.p.h.; Auburn, 23/1000 of a second behind the winner, and Paige, 23/1000 of a second behind Auburn



## Champion Salesmen Meet in Rochester

### Sales Matters and Future Campaigns Discussed By Northeast Group

ROCHESTER, N. Y., June 13—All salesmen of the Champion Spark Plug Co. covering territory in northeast states, gathered here for a two-day sales convention at the Hotel Seneca last week. The convention was brought here by W. H. Rowerdink & Son, local distributor of Champion plugs, after several other cities had made bids for the meeting.

The convention was under the direction of F. B. Caswell, vice-president in charge of sales; Charles Corwin, eastern district manager, and Fred Smith, western New York district manager. Salesmen in attendance were those whose territories included New England, New York, New Jersey and Pennsylvania.

Sales problems were discussed, experiences exchanged and future campaigns laid out at the convention. In the way of diversion the Champion Chorus broadcast from station WHEC, located in the hotel, and at a dinner Sheriff Albert H. Baker, of Monroe County, who sells Champion plugs at his gasoline stations, was the guest and speaker.

### Two Puncture-Proof Tube Patent Claims Rejected

WASHINGTON, June 16—Two claims for patents for a puncture-proof automobile inner tube, composed of overlapping disks or blocks of hardened rubber or other material fastened to the tread portion of the tube, have been rejected by the U. S. Patent Office.

The blocks or disks are located so close together as to present a practically continuous armor but are spaced far enough apart so as not to interfere with the flexibility of the tube.

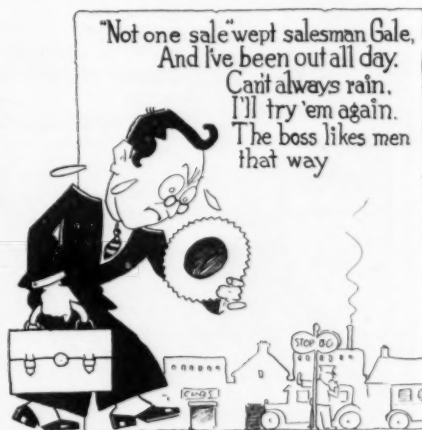
### Breay-Nash Celebrates Opening

TORONTO, ONT., June 14—One of the finest showrooms in America was opened formally in this city when Breay-Nash Motors Ltd., Ontario distributor for the Nash line, tendered a luncheon to Nash dealers at which many important Nash Motors Co. executives were present, including President Charles W. Nash and several other executives. The new Breay-Nash building is the last word in service station and showroom buildings.

### Form Willbuck Chevrolet Co.

ROCKINGHAM, N. C., June 15—The Willbuck Chevrolet Co. has been incorporated here with a capital stock of \$25,000, of which \$5,000 has been subscribed. Incorporators are N. E. Buchanan, T. Williams and F. M. Williams.

## Salesology



### Kansas City Chevrolet Dealers Welcome Seese

KANSAS CITY, MO., June 13—Kansas City Chevrolet dealers and dealers from the surrounding territory welcomed P. M. Seese, new zone sales manager, to Kansas City with a luncheon. Mr. Seese comes to Kansas City from Fargo, N. D. The Kansas City zone now includes western Missouri and eastern Kansas. He succeeds O. I. Taft, resigned.

At the luncheon for Mr. Seese other announcements affecting the Kansas City zone were made. M. W. Tucker, who has been city representative, has been made office manager, succeeding A. G. Avery, who was transferred to Wichita as assistant sales manager.

Other changes announced include:

F. A. Finney, formerly service manager promoted to promotion manager, succeeding George Dykeman, transferred to the Wichita zone.

Robert Ritchie, sales promotion manager and Frank Thayer, sales representative, transferred to Wichita. Their successors here have not been named.

A. W. L. Gilpin, former sales manager of the company's eastern territory and promoted to regional sales manager in St. Louis, attended the luncheon. Mr. Gilpin has supervision over the Kansas City zone.

### Meyers is Used Car Manager

SEATTLE, June 15—E. H. Meyers, who for 10 years was associated with the Ford Motor Co., Seattle, and for the past three years manager of its truck and tractor department, has been appointed used car manager for Bert Blangy's Central Agency, Seattle Ford dealer.

### Wilson Motor in New Store

VANCOUVER, B. C., June 13—The new showrooms and garage of the Russell Wilson Motor Co., Ltd., at 1315 Granville St. was opened recently and will have every advantage for the displaying of Marmon cars for which this firm is sole distributor in the province of British Columbia.

## Heavier Crankshaft Installed in Essex

### Stroke Increased from 4¼ to 4½ in.—Closed Car Rear Quarters Rounded Off

DETROIT, June 16—Changes in the Essex Super Six comprising an increase in stroke, giving 8½ cu. in. more piston displacement, a heavier crankshaft and altered body lines, are just announced by the Hudson Motor Car Company.

The bore and stroke are now 2 11/16 by 4½ in. giving a piston displacement of 153.2 cu. in., as compared with 144.7 cu. in. formerly. The main crankshaft bearings have been increased in size.

Changes in body lines comprise the rounding off of the rear quarters of the closed cars. The wheels are an inch smaller than formerly with 30 by 5.00 balloon tires. The rear axle gear ratio has been decreased.

The right front seat of the coach is mounted on a mechanism which allows it to slide forward sufficiently to permit passengers to reach or leave the rear seat without disturbing the front seat rider.

A new four-door sedan with a steel body will take the place of the former four-door and de luxe sedans, and is priced at \$835, whereas the former models were listed at \$795 and \$875 respectively.

Following are list prices and finish of the new Essex sedan and phaeton models: 5-passenger sedan, \$835, two-tone gray, molding deep green, edged with white; 5-passenger phaeton, \$835, body in gray, molding in green with a black center stripe and edged in cream.

### Give Velie 50 Test

MOLINE, ILL., Jan. 16—H. L. Brinck, of the Velie Motors Corp., and W. H. Murphy, of the Colorado Velie Co., Denver, recently drove a Velie 50 over a six-day, 1100-mile mountain test through Colorado Springs, Pueblo, Ratan, Trinidad, Las Vegas and Santa Fe. According to Mr. Brinck, giving due consideration to the size and weight of the Velie 50, this test was a remarkable demonstration of this car's power and endurance.

### Asheville Knight Organized

ASHEVILLE, N. C., June 16—The Asheville Knight Motor Co. has been incorporated here with a capital stock of \$100,000. Incorporators are E. A. Walker, Vertie Walker and F. L. Wilkins.

### G. T. Knight is Reo Distributor

WHEELING, W. VA., June 16—A distributorship franchise has been granted the G. T. Knight Motor Co. by the Reo Motor Car Co.

## Two Added to 72 Club at Cincinnati

Grannan and Huppman Receive Pins for Chevrolet Work—Behrle Leads Zone

CINCINNATI, June 13—Fifty Cincinnati members of the Chevrolet 72-Car Club, Chevrolet organization composed of salesmen who have sold 72 cars in the preceding year, enjoyed luncheon at the Gibson Hotel and a visit to the Cincinnati-New York ball game at the quarterly meeting of the club at which two new members received honor pins.

R. K. White, factory manager of sales promotion, and W. A. Blees, manager of the factory time financing department, addressed the gathering, as did J. H. Winn, assistant zone sales manager; G. R. Browder, zone sales manager, and D. T. Bathrick, city sales manager, who presided as toastmaster.

The theme of all speeches was that the men constituting the club membership had not "arrived" but were only starting, speakers urging redoubled efforts to increase the showing next year.

Martin Behrle, Gilbert Chevrolet salesman, was introduced as the leader in this zone with a total of 2440 points, receiving an ovation from his fellow salesmen.

W. J. Grannan, of the Avondale Chevrolet Co., and George Huppman, of Glenway Motor Sales Co., were the new members who received pins.

C. Leo Stanfield, of Gilbert Chevrolet, who has concluded his second year as a member of the club, was presented with a diamond pin by the factory.

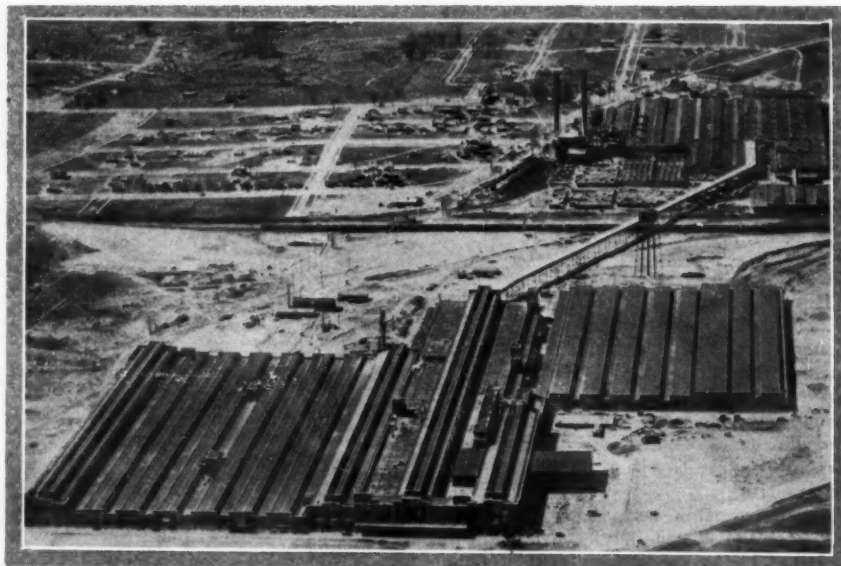
### Velie Contracts 21 Dealers

MOLINE, June 16—The Velie Motors Corp. has contracted the Springfield Velie Co., Springfield, Ill., to act as a distributor, and the following dealers:

Nelson Motor Co., Morrison, Ill.; Bert Wagler, Geneseo, Ill.; Alex Reiber, Jr., Hastings, Neb.; Ingvalson & Widmark, Ivanhoe, Minn.; Joseph C. Decoster, Armory Garage, New Brunswick, N. J.; J. C. Thomas Auto Sales Co., Bloomington, Ind.; Massillon Velie Sales Co., Massillon, Ohio; Sayward Motor Co., Maden, Mass.; B. B. Brom Auto Co., Newton, Iowa; E. O. Proctor, Ayer, Mass.; Wm. S. Bowlby, Pattemburg, N. J.; B. H. Copeland, Thomaston, Me.; Monroe Garage, Frackville, Pa.; Burton B. Bean, New Haven, Conn.; H. C. Clouser, Anderson, Ind.; Farm Implement Co., Albert Lea, Minn.; Velie Sales & Service, Lancaster, Pa.; Goodson Bros., Springvale, Me.; Goodson Bros., Bar Mills, Me.; Gardner-Freeport Company, Freeport, Long Island, N. Y.; Portsmouth Velie Co., Portsmouth, Ohio.

### Contest Benefits Crawford

SAN ANTONIO, June 14—The Crawford Motor Co., Ford dealer, was host at a dinner given recently, honoring the winning team in a new business drive for May. The winning team, captained



This airplane view shows the newly completed \$10,000,000 plant of the Pontiac Division of the Oakland Motor Car Co., at Pontiac, Mich. At right center may be seen the inclosed overhead conveyor which brings bodies from the Fisher Body factory at upper right corner

by Joe Dengal, won by a narrow margin from the "Greens," captained by Charles Deason, Jr.

B. E. Brock, general manager of the Crawford Motor Co., stated that May was one of the best volume months of any previous year.

### Falcon Southern Sales Exceed Earlier Quotas

DETROIT, June 11—A healthy and growing retail demand for Falcon-Knight cars in the southern states is reported by the Falcon Motors Corp., which states that during the first month, retail deliveries in the Atlanta territory place Falcon in eighth place.

"In allotting our production for the first six months," said F. H. Akers, general sales manager, "we had anticipated a very slow demand from the southern states due to the unfavorable cotton prices. In Atlanta, New Orleans, San Antonio and a number of other southern territories our dealers report very satisfactory demand."

"Retail sales in Florida have also been surprising. Due to the reported quiet conditions of business in that state, we had anticipated a small volume for 1927; but the retail sales volume in Jacksonville, Tampa and other points of the state are very satisfactory and most of our dealers in Florida are selling over their original quotas."

### Spend 15% of Revenues on Roads

WASHINGTON, June 11—An analysis of expenditures and revenues of the 48 states made by the U. S. Department of Commerce shows that an average of 15 per cent of expenditures was for highway improvements. Receipts from sales taxes on gasoline amounted to \$136,749,865 and from motor vehicle licenses to \$233,933,855. This is an increase over the previous year of \$49,396,671 in gasoline and \$35,223,545 in license taxes.

### Eby Leaves Olds for General Motors Exports

DETROIT, June 13—E. E. Eby has resigned his position as assistant to I. J. Reuter, president and general manager of the Olds Motor Works to accept a post in the overseas organization of the General Motors Export Corporation. He will have charge of part of the company's activities in Berlin.

Mr. Eby had been with Oldsmobile for two years, previous to which he was connected with the Hyatt Roller Bearing Co. for five years and later obtained experience in export work with the Delco-Remy-Hyatt, Ltd., which company was engaged in overseas business. He was then made purchasing agent and service manager of the Remy Electric Co.

### Names 24 Sub-Dealers

SAN FRANCISCO, June 13—Stanley W. Smith, northern California distributor, recently announced the addition of twenty-four new dealers and sub-dealers for Hudson and Essex automobiles in his territory, since March 1. They are:

Bell's Garage, Sausalito; J. R. & Stanley Bowdish, Manteca; W. R. Brokhausen, San Leandro; Callistoga Garage, Callistoga; B. Mignacco Co., San Francisco; E. S. Egbert, Rio Vista; E. G. Hinds & Co., Redwood City; James R. Loupe, Alameda; Newman Motor Co., Newman; R. & G. Motor Co., Niles; Robinson & Mazzera, Hayward; Sebastopol Motor Sales Co., Sebastopol; Fuller & Peters, Petaluma; Wright's Garage, Benicia; Solano Garage, Inc., Dixon; Fortuna Motor Sales, Fortuna; Ferndale Motor Sales, Ferndale; Arcata Hudson-Essex, Arcata; Hudson-Essex Motor Sales, Pittsburg; Collier Motors Co., Oakland; Hudson-Essex Motor Sales, Antioch; Stewart Motor Car Co., Livermore; Conway Garage, Fort Bragg; Mill Valley Motor Sales, Mill Valley; Meyer Bros., Lodi and Stockton; Point Reyes Motor Sales, Point Reyes.



## CLOSE UP AND LOW DOWNS

By SAM U. L. SPARKS

A GUY came in my garage the other day and asts me, "Do you have much trouble keeping help?"

"Well," says I, looking over the shop where one of the boys was draped over the vise on the work bench and he didn't look like he was much of a help, but he was a good answer to the question. "Hank's been with me going on eight years."

"He's pretty much of a fixture, ain't he?" say the guy.

"Almost, but not quite," I had to admit. "You'd be surprised how fast he can move, come dinner time or quitting time."

\* \* \* \*

Every once and a while some goof will rise to remark that you don't have to be no salesman to sell automobiles, but every time you go down the street and see a lotta them orphan cars running around, it looks like somebody had once been a father to them and done a good job of selling them or the people wouldn't of bought them.



*And then there's some that claim a salesman is born. No doubt there's some truth to that suspicion. Anyhow, some of them look alive.*

The trouble with a lotta guys is about half of them think they know it all and the other half thinks there's something mysterious about salesmanship. And somewhere in between them two extremes you now and then run across a few with a little common sense.

I ain't setting myself up as a shining sample, but I have found that if you exercise a little indian-uity, you can sell most anything.

\* \* \* \*

And I believe in keeping up to date. I ain't above taking a hint now and then from the books of experiences of others—take this here "physiology of salesmanship" for instance. I don't believe you had ought to try to hypnotize a guy which you are selling a car to, but when I went to school they learned me that physiology has got something to do with the bones of the human body and that most people have got five senses, but since I been in the automobile business I have found out that in this business you have got to have a sixth sense and it is common sense, sometimes nicknamed horse sense. And since I been studying this physiology of salesmanship I have come to the conclusion that the reason some bus salesmen is better sellers than others is because they ain't got so many bones in their heads where the brains ought to be.



The trouble with some guys is they think they have got to be a orator, and they don't give the other guy a chance to talk. Most everybody likes to talk, but if you do a little listening now and then, the guy to which you listen will think you are O. K.

\* \* \* \*

"What's the secret of your success?" a guy ast me and I told him that my success was due to the fact that it wasn't no secret. I sell the Halfpast Six, and I don't care who knows it.

Just because all the world's a stage ain't no excuse for there being so many bad actors.

You can tell what kinda birds some guys are by their foul mouths, if you know what I mean.

### Briggs is Chosen Manager

ST. PAUL, June 13—Ray Briggs has been appointed manager of Studebaker retail sales in St. Paul. L. W. Sidwell is manager of the new branch at 858 Grand Avenue., and announces appointment of Mr. Briggs, who has made several records for sales in his connection with Studebaker in the last

eight years. In April he delivered more cars than any salesman heretofore.

### Stewart Branch for Rochester

ROCHESTER, N. Y., June 14—The Stewart Motor Truck Corp. has opened a factory branch here under the management of W. K. Beck.

## Trade in Carolinas Hustles for Volume

### Car Sales Lose Ground—Tire Market Disorganized—Credit Conditions Delicate

CHARLOTTE, N. C., June 13—Mixed conditions obtain in the automotive trade in the Carolinas territory and only by the most vigorous sales efforts are the distributors and dealers able to maintain what they regard as a fairly satisfactory volume of business, according to reports obtained from representative concerns early in June. Sales this year to date range from 10 per cent below the total for the corresponding period of last year to equality with that period, different distributors reported.

Apparently authentic information indicates that the sales of Ford cars in this territory are considerably below the total for the same period of last year, while relatively large increases have been made by other lower priced lines of cars. Sales of the medium priced lines are fairly good. Several lines of speedy, light trucks are selling rather briskly.

Trading and price cutting recently has tended to disorganize the tire market to a considerable extent, and sales resistance has been increased by persistent reports that the manufacturers may revise the prices of tires.

Sales of gasoline and oil have increased this year, as compared with the totals for the same period of last year, only at a normal rate, despite the lower price of gasoline.

Credit conditions are delicate, collections are somewhat slow and numerous dealers and service stations are reporting that they are experiencing much trouble from the "bad check" evil.

### Ohio Sales Show Gain

COLUMBUS, OHIO, June 11—The Bureau of Business Research, Ohio State University, has completed the tabulation of sales of new passenger cars and trucks as shown by the filing of bills of sale with county clerks in 57 counties out of the 88 counties in Ohio. This report shows that there were 21,731 new cars and 1643 new trucks sold in April of this year. These figures show a gain of 50.6 per cent in passenger cars and 22.3 per cent in trucks over the records of March, 1927, but show a decline of 14.8 per cent under the records of April, 1926.

### DePaolo Wins at Altoona

ALTOONA, PA., June 13—Pete DePaolo, driving a Perfect Circle Miller Special, won the 200-mile race at the speedway here on Saturday. His time was 1:42:56 8-10. Harry Hartz finished second and Eddie Hearne third.



## Survey Shows 72% Car Lights Faulty

11,847 Sets Tested in Kansas  
City Campaign—Improper  
Focus Rife

KANSAS CITY, June 13—In a four-day "safer light" campaign just closed here it was found that only 28 per cent of motor car lights tested were in proper condition.

The campaign, conducted by the Safety Council with the police department, Automotive Trades Association, Kansas City Motor Car Dealers Association and the Automobile Club of Kansas City cooperating, was the second annual light testing campaign here. In spite of the fact that it rained three out of the four nights of the campaign, 11,847 sets of motorcar lights were tested—a gain of 50 per cent over last year.

The testing stations, with six volunteer workers and a police officer in charge, were located in different parts of the city with the object of testing lights of every type of motor vehicle in use. Ten stations were operated. George A. Arnold, former president of the Automotive Trades Association, was in charge.

The lights were tested for defective focus, defective reflectors, broken lenses, lights that were too dim or too bright. The tests revealed that 50 per cent of the faulty lights were caused by improper focus. As the test was made the motorist was given a card showing the defects or an O.K. sticker on the windshield.

A buffet luncheon at the Cowie Electric Co., was given for the workers at the close of the campaign.

## Gasoline Output Falls

WASHINGTON, June 13—Gasoline production, based on the daily average, showed a decrease in April, as compared with March, which is regarded as unusual, the Bureau of Mines, U. S. Department of Commerce, has announced.

Runs to stills of crude petroleum amounted to 66,964,000 barrels and the output to 26,577,000 barrels, a daily average of 886,000 barrels, or a decrease of 14,000 barrels a day as compared with March figures.

## Williamson Selling Chevrolet

CINCINNATI, June 15—Robert Williamson, who formerly operated a Dodge agency in Cincinnati and who later was connected with the Mason Towle Co., Cincinnati, has joined the Economy Chevrolet Co., 4912 Montgomery Road, Norwood.

## Henry-Gaston Buys Olds Branch

SAN ANTONIO, June 15—The Henry-Gaston Motor Co., is the new Oldsmobile distributor for San Antonio and all of south and west Texas. The ap-



*The modern new home of the W. F. Groom Motor Corp., Buffalo, Oakland and Pontiac dealer, was formally opened recently. It is one of the largest and best equipped retail automobile establishments in New York state*

pointment means that the sub-branch of Olds Motor Works, located at 619 Broadway for more than a year, will be discontinued.

Heading the new firm as president is Pat Henry; George H. Gaston is vice-president; A. C. Burke, general manager, and C. B. Voss, manager used car department.

## General Chromium Formed

DETROIT, June 13—The General Chromium Corp. has been organized by several leading companies in the electro chemical industry, it was announced today, for the consolidation of important patent rights in chromium plating and for the development of a chromium plating process of great importance to the automotive industry. The General Chromium Corp., Union Carbide & Carbon Corp., through its subsidiaries, the Electro Metallurgical Co. and the Union Carbide & Carbon Research Laboratories, Inc., and the Vacuum Can Co., have consolidated their patent rights in the new corporation. The process identified by the patents is called Duro-Chrome.

## Zenith Jobbers Meet

ATLANTA, June 10—The southern district convention of the Zenith-Detroit Corp. was held recently in the Henry Grady Hotel, Atlanta, with distributors of the Zenith line present from all of the southeastern states. It was the consensus of jobbers present that while the automotive business is not as brisk in the Southeast this year as it might be, they are facing a fairly good year.

## Rockhill Goes to Duluth

MINNEAPOLIS, June 11—E. E. Rockhill, director of retail sales for the Pence Automobile Co., Minneapolis, has become manager of the branch at Duluth, succeeding C. E. Walker. The latter will return to the Pence main office in Minneapolis to direct wholesale sales. Mr. Rockhill has set 400 Buick cars as his quota for 1927 in Duluth.

## Splitdorf Aims for a "Plug Conscious" Public

NEWARK, N. J., June 14—Splitdorf Electrical Co. has put out a new spark plug merchandiser in the form of a display cabinet. The cabinet is made of steel, handsomely finished in orange and black and holds 120 spark plugs. It is furnished free to dealers who buy a minimum of 100 assorted Splitdorf plugs.

There are eight compartments in rear of the cabinet for single plug cartons and one compartment for Ford plug cartons. There is a literature pocket on the left side of the cabinet.

The display cabinet gives at a glance the Splitdorf spark plug story, with prices. It is calculated to make customers visiting retailers "spark plug conscious."

## States Control Traffic

WASHINGTON, June 13—Interstate motor vehicle traffic on the highways of the nation is subject to control by the various states under a decision of the U. S. Supreme Court rendered last week in sustaining a ruling of the District Court for the Southern District of Ohio that the state has the right to regulate and tax motor trucks operated exclusively in interstate commerce.

## Pomeroy-Kennedy Relocates

MINNEAPOLIS, June 15—Pomeroy-Kennedy Co., by removal to 1664 Hennepin Ave., formerly Willys-Overland wholesale department, has opened what is regarded as one of the largest Chevrolet establishments in this territory. The service department, 38 Tenth St. S., has been united with the sales at this number.

## Handles Marmon in Hollywood

LOS ANGELES, June 15—Harry H. Anderson has been given the dealership for Marmon cars in Hollywood. Associated with Anderson are Ray D. Creighton and H. Cal Hanley, who have all been engaged in the automotive business here for years.

## Automotive Equipment Mart is Discontinued

CHICAGO, June 14—The Automotive Equipment Mart, which has been operated for the last two years by the Automotive Manufacturers Association at 1315 South Michigan Ave., as a permanent exhibit of automotive accessories and equipment, has been discontinued. Although about 100 manufacturers maintained exhibits at the mart, it was not self-supporting and the directors of the association have decided to close it.

The Automotive Manufacturers Association, which was organized in 1916, will be continued and its entire facilities will be devoted to extending and enlarging the sales and credit reporting services which have been highly valued by the members in the past. W. E. Green is secretary of the association.

## Cline Directs Gabriel Sales in Cook County

CHICAGO, June 16—Stanley C. Cline, who for the last two years has been sales manager of the Gabriel Snubber Mfg. Co., Cleveland, has returned to Chicago to again become associated with the Gabriel Snubber Co. of Chicago. Mr. Cline was with the Chicago company before going to Cleveland. He will direct the sales organization of the company which is the exclusive distributor of Gabriel Snubbers and Pines Winterfronts in Cook County and 14 surrounding counties.

## Stoughton Reorganized

MILWAUKEE, June 11—The Stoughton Co. is the name of a new Wisconsin corporation which has been organized to take over and continue the business of the Stoughton Wagon Co., Stoughton, Wis., a pioneer manufacturer of wagons, established more than 60 years ago, and in recent years an extensive manufacturer of motor trucks, motorbuses and bodies for such vehicles. The reorganization has been effected with the cooperation of creditors. Assets valued at \$320,000 are transferred to the new corporation.

## Cincinnati Dealer Changes

CINCINNATI, June 13—The Fette Sales Company last week moved into new headquarters on Gilbert Avenue, Cincinnati. The building now used by the company formerly was occupied by the Clifford Jacob Motor Car Company, Rickenbacker dealers, which has taken the old location of the Gem Motor Sales Co., on E. McMillan St.

The Fette Motor Sales succeeds Gem Motor Sales Company. Martin Fette continues in charge. The Stearns-Knight and Falcon-Knight will be handled by this company.

## Packer Advanced to Manager

LOS ANGELES, June 11—Appointment of W. M. Packer as city sales manager of the Los Angeles factory branch of the Chevrolet Motor Co., is announced by George H. Wallace, zone

sales manager here. Mr. Packer assumes the place left vacant by the promotion of Roy W. Hill to the position of assistant zone manager in El Paso. Mr. Packer was formerly in charge of Chevrolet city sales in Minneapolis and St. Paul.

## Fisher Has New Tire Shop

CINCINNATI, June 14—The Charles A. Fisher Co., Goodrich tire dealer, has moved from Race Street to an attractive location on Reading Road in a building constructed especially for tire and battery servicing.

## Grant to Sell Locomobile

LOS ANGELES, June 14—George H. Moriarity, manager of the Los Angeles factory branch of the Locomobile Co. of California, announces the appointment of the Walter H. Grant Motors Co. as Locomobile dealer in Long Beach.

## Gruber Builds Station

SCRANTON, PA., June 13—The Gruber Motor Car Co., Reo dealer, is erecting a new sales and service station for its Carbondale branch. Twenty-one thousand square feet of floor space will be provided.

# What Do They Say About a Fool Asking Questions?

*It was a wise-cracker of the olden time who wrote:—"Examinations are formidable even to the best prepared, for the greatest fool may ask more than the wisest man can answer."*

*Foolish or wise, well-prepared or ill-prepared, try these questions on your cerebellum—or should we say medulla oblongata? Count ten points to a question and you'll soon figure how clever you are. Answers next week.*

1. What automobile was named after the French explorer who founded Detroit?
2. What make of automobile uses the slogan "Your Next Car?"
3. (a) What do the letters "N. A. C. C." stand for? (b) Who is its president? (c) Who is its general manager?
4. Why should the king pins incline towards the back of the car?
5. What American car in production today has the greatest piston displacement?
6. Do short circuits or open circuits tend to burn out bulbs?
7. Who is credited with having built the first self-propelled gasoline vehicle in this country?
8. When, where and by whom was the commercial manufacture of automobiles begun in this country?
9. Approximately how many dealers in the United States handle passenger cars?
10. Approximately how many dealers in the United States handle commercial motor vehicles?

## Answers to June 9 Questions \*

1. Hupmobile for many years used the slogan, "The Car of the American Family."
2. The first automobile contest in America was held in Chicago on Thanksgiving Day, November 28, 1895.
3. There were six entries—four gas and two electric. Two gas cars finished.
4. The winner was Charles E. Duryea, driving the gasoline entry of the Duryea Motor Wagon Company, Springfield, Mass. Distance and time—52½ miles at an average speed of 7½ miles per hour, time for necessary stops being deducted.
5. According to H. H. Kohlsaat, sponsor of the race, Henry Ford was anxious to attend, but could not find anyone to lend him the carfare from Detroit to Chicago.
6. Walter C. White, president of the White Company is a Chevalier of the French Legion of Honor.
7. The weight that a tire can support equals the air pressure in it times the number of square inches in contact with the road. For example, a tire with 70 lbs. pressure supporting 980 lbs. will have 14 sq. in. of road contact. A balloon tire with 35 lbs. of pressure carrying the same load will have 28 sq. in. of road contact.
8. Some lubricating systems cannot handle a heavy oil. In cool weather the lubrication system might fail entirely if filled with a heavy oil. Also heavy oils tend to form excessive carbon in some engines.
9. There are three sizes, 7/8, metric, and 1/2 inch.
10. The unit of electrical pressure is the volt. Without pressure, or voltage current would not flow.

\*These answers are not guaranteed, but are secured from sources thought to be reliable.



## Ohioans Get Legal, Financial Pointers

N. A. D. A. Council Sponsor  
Series of Meetings Throughout the State

COLUMBUS, OHIO, June 16—The first of a series of merchandising and get-together meetings which will be held in Ohio during the months of June and July, under the auspices of the Ohio Council, National Automobile Dealers Association, was held at Findlay, Ohio, last week with a good attendance. The meetings were arranged by G. H. Ford, of the headquarters staff of the N.A.D.A., and acting manager of the Ohio Council.

The principal speaker at the Findlay conference was Frank X Schaut, legal advisor of the Ohio Council and legal counsel of the Cleveland Automotive Manufacturers and Dealers Association. Mr. Schaut is also chairman of the legislative committee of the Ohio Council.

Mr. Schaut has made a thorough study of legal matters pertaining to the automobile business. He traced the sale of the car from start to finish, through the various phases of the down-payment, finance company's responsibility and requirements, and the taking of notes as part payment.

Mr. Schaut showed how it is legally impossible to sell a minor an automobile in Ohio under every condition. The laws of Ohio hold the dealer responsible when dealing with a minor and at any time the minor can demand and legally secure all the money paid for an automobile, whether he returns the car or not.

G. H. Ford spoke on the financial part of the dealers' business and especially along the line of accounting. He showed the proper methods of calculating profit on both new and used car deals and also the way to conduct the business along recognized commercial lines.

To supplement its work along the legal lines the Ohio Council has arranged to send out several times monthly a service to dealers throughout the state. This service will consist of six or eight bulletins describing in detail various phases of the Ohio law as it applies to the industry.

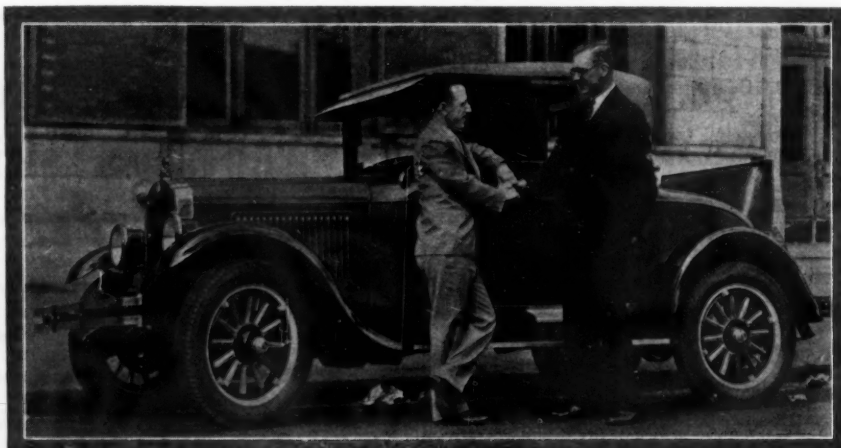
Meetings have been scheduled for Springfield, Hamilton, Columbus, where a golf match will be played; Washington C. H., Chillicothe, Lancaster, and Newark.

Reo for E. Lefler & Son

WOODSTOCK, ONT., June 15—E. Lefler & Son has been appointed a dealer by the Reo Motor Car Co.

Boyle With Aluminum Industries

CINCINNATI, June 16—F. J. Glennon, vice-president and general sales



*Here's a sale that took 21 years to complete. Not long ago Meyer F. Miller (left), of Washington, D. C., saw an Oldsmobile advertisement in a magazine dated Jan. 21, 1906. It interested him and he answered it. Catalogs showing the 1927 Oldsmobile were sent him and further held his interest. Above he is shown taking delivery of an Oldsmobile sports coupe from Mr. Klein, of the Wisconsin Motor Co., Washington, who followed up the inquiry*

manager of the Aluminum Industries, Inc., manufacturer of aluminum alloy pistons, announces the addition to his sales force of James J. Boyle. Boyle's territory consists of Ohio, Kentucky, West Virginia, Michigan and western Pennsylvania.

## Heffinger Elected Head of C. A. T. A.

CHICAGO, June 13—New officers of the Chicago Automobile Trade Association were elected at the association's annual banquet at the Stevens Hotel tonight as follows:

President, O. G. Heffinger; vice-president, H. W. Peters; secretary, W. E. Butler; treasurer, Thomas J. Hay.

New directors are C. E. Gambill, George H. Bird, C. R. Dashiell, J. R. Histed, L. Markle and R. G. Tiffany. H. A. Wehmeier holds over as a director.

The new president is head of the Chicago Motor Car Co., Jordan distributor, and for a number of years has been active in association work.

## Solves Car Parking for Theatre Goers

SEATTLE, June 13—A. E. Tonnesson, well-known automobile man of Seattle who recently took over the Union Street Garage, is giving a "new flavor" of service to his patrons. Realizing that parking is one of the big problems of today, especially in the popular theatre districts, Tonnesson stations white-coated service men at the theatre entrances, to convey automobiles to the garage without extra charge.

## Wells Reelected

Heads Louisville Association for Twenty-fourth Time

LOUISVILLE, June 13—Prince Wells was reelected president of the Louisville Automobile Dealers Association at the recent annual meeting of the organization. This will be the twenty-fourth consecutive term served by Mr. Wells.

Other officers and directors named are Clifford Bowman, first vice-president; Turner A. Summers, second vice-president; directors in addition to the officers, C. S. Potter, L. J. Hannah, John R. Boyd, George T. Holmes, James Rumsey Weir and C. L. Alderson.

A complete outline of the proposed activities of the association was made by Prince Wells which include the operation of the association's own warehouse for the storage of members' new car stocks and continuation of the Windsor Plan of used car market reports. This plan was unanimously approved by members after having been in force for two months.

The association plans to open the new warehouse with a housewarming July 1. Invitations will be extended to the entire Louisville automotive trade.

## Makes Rings With .001 Diametric Tolerance

PHILADELPHIA, June 16—Referring to a statement in the June 2 issue of MOTOR AGE in which it was stated that no manufacturer makes piston rings to a diametric tolerance of less than .002½ of an inch, the Warwood Tool Co., Baltimore, maker of Diamond Piston rings advises that for over two years it has been making in regular production rings whose diametric tolerance is guaranteed to be within .001 of an inch.



## Cincinnati Garage and Repair Men Organize

CINCINNATI, June 13—A score of public garage owners and operators of automobile repair shops of Cincinnati, at a meeting in Cincinnati this week organized the Association of Garage and Automobile Shops of Greater Cincinnati. The purpose of the association is to protect the public garage owners and automobile repairmen from fraud and for the dissemination of credit information among its members.

Arthur J. Heinss was elected president; Charles Herrmann, vice-president; George Balz, treasurer; Irwin Klien, secretary, and George F. Saline, legal advisor.

### City Tire Purchases Property

ROCHESTER, N. Y., June 14—The City Tire Co., Pennsylvania tire distributor, has purchased a building at Monroe Ave. and Manhattan St., which will be remodeled into a permanent home for the company. The price paid for the property was \$75,000, according to reports, and when remodeling is completed the building will be one of the finest equipped tire shops in this part of the state.

### Opens Power Boat Garage

TOLEDO, June 11—Fred O. Weisenburg, formerly dealer in Hupmobile cars and operator of a sales and service station in Auburndale, a west-end section of the city, has closed out his business to enter the power boat garage business. He will have a location at the

Toledo Yacht club, will represent Dodge and other makers of power craft, and will have a complete service station for motor boats.

## Yellow Truck Elects

DETROIT, June 13—The Yellow Truck & Coach Mfg. Co. elected the following officers at a meeting of directors here:

John D. Hertz, chairman of the board; John A. Ritchie, vice-chairman of the board; Paul W. Seiler, president; Irving B. Babcock, P. H. Emerson, Paul H. Geyser and George A. Green, vice-presidents; Irving B. Babcock, treasurer; Edward N. Ancona, secretary and general counsel, and E. R. Brach, comptroller.

Members of the board are: John D. Hertz, Irving B. Babcock, Albert Bradley, Fred J. Fisher, Harold E. Foreman, Charles McCullough, John L. Pratt, John A. Ritchie, Paul W. Seiler, Alfred S. Swayne and William Wrigley, Jr.

### New Flint-Star Agency

CINCINNATI, June 15—Cincinnati has been made a distributing point for Flint and Star cars. The Cincinnati headquarters will be 1042 Gilbert Ave. The new agency will be under the management of Carl Schaefer, formerly of Pittsburgh.

### Blackburn Sells Elcar

CLEVELAND, June 16—The Baston-Prentice Co., Elcar distributors in Cleveland, reports the establishment of the W. H. Blackburn Motor Sales Co., East Cleveland, as Elcar dealer.

## Carpenter is Made Head of Los Angeles Dealers

LOS ANGELES, June 13—Earl R. Carpenter, president of the Paul G. Hoffman Co., Inc., Studebaker distributor, was recently elected president of the Los Angeles Motor Car Dealers Association, succeeding Robert S. Breyer, general manager of the Troy Motor Sales Co., Nash distributor.

Harold W. Tuttle, assistant general manager of the Howard Automobile Co., Buick distributor, becomes the new vice-president. Myron Albertson, of the Albertson Motor Car Co., Dodge distributor, was elected treasurer, and Winslow B. Felix, of the Chevrolet agency bearing his name, was chosen secretary.

### Blaze Buys Business Interest

OKLAHOMA CITY, June 15—M. J. Blaze, formerly with the Paige-Detroit Motor Co., has acquired an interest in the Paige-Jewett Motors here. According to J. W. Falconer, president, he will act as sales manager.

J. A. Brown, who has sold cars in Oklahoma City for 20 years has been added to the staff of the Roy Fisher Pierce-Arrow Motor Co.

### Smith-Swinney Shifts

FORT WORTH, TEX., June 13—The Smith-Swinney Motor Co. formally opened its new quarters at W. Seventh and Lexington Sts. last week. The company is Hudson and Essex dealer. The building has 25,000 sq. ft. of floor space.

## John Cleary says—

- ¶ Notice the collegiate phaetons and roadsters, with tops down, on the roads these days? You'll see plenty more of them this summer.
- ¶ The smart dealer will get a hunch from this.
- ¶ He will pick the open cars out of his used stock and doll them up for the trade that follows the lead of the varsity boys and girls.
- ¶ Who sets the styles nowadays?
- ¶ Ask the dealers in lipsticks and yellow slickers.
- ¶ Or—on the well-known other hand—ask a dealer in corsets and petticoats. Address of the latter—Top Floor Back, County Poorhouse, Over the Hill.

## What's Coming in Motordom

SHOWS		CONVENTIONS		RACES	
Chicago	Nov. 7-12	Automotive Equipment Association, Summer Convention, Multnomah Hotel, Portland, Ore.	June 27-July 2	Abilene, Texas	July 4
*Chicago	Jan. 28-Feb. 4	Automotive Equipment Association, Coliseum, Chicago	Nov. 7-12	Altoona, Pa.	Sept. 5
Chicago	Jan. 28-Feb. 4	National Association of Automobile Show and Association Managers, Drake Hotel, Chicago	July 28-29	Atlantic City	Sept. 24
Cleveland	Nov. 14-19	National Automobile Dealers Association, Sales Meeting, San Francisco	June 21	Charlotte, N. C.	Oct.
Des Moines	Feb. 20-25			Detroit	Sept. 10
Green Bay, Wis.	Aug. 29-Sept. 2			Los Angeles	Nov. 27
Los Angeles	Feb. 11-18			Salem, N. H.	June 25
New York	Nov. 27-Dec. 3			Salem, N. H.	Oct. 12
				Syracuse, N. Y.	Sept. 3

### Three North Carolina Concerns are Chartered

**RALEIGH**, June 15—Acme Motor Co., Inc., Burlington, has been chartered to deal in automobiles and accessories. Authorized capital stock is \$75,000; subscribed \$13,000 by W. R. Freshwater, G. E. Love and John T. Love, all of Burlington.

Brooks-Chapin Motor Corp., Beaufort, has been chartered to deal in automobiles and accessories. Authorized capital stock is \$100,000, with \$2,000 subscribed by George J. Brooks, H. L. Chapin and J. F. Duncan, all of Beaufort.

Hoyle Motor Company, Inc., Gastonia, has been chartered to deal in automobiles and accessories. Authorized capital stock is \$50,000; subscribed \$1,000, by George D. Enfield, of Charlotte; W. F. Hoyle, of Gastonia, and M. H. Hoyle, of Lincolnton.

### Trumbull Gets Falcon

**SPOKANE**, June 13—W. W. Trumbull, the oldest automobile dealer in Spokane, has been named distributor for the Falcon-Knight car in the Inland Empire territory, comprising eastern Washington and northern Idaho. He operates under the firm name of the Spokane Auto Co.

### Buy Oldsmobile Branch

**PORTLAND, ORE.**, June 15—The Oldsmobile Co. of Oregon has disposed of its branch at Bend, Ore., to R. D. Davis and W. A. Woods, who will hereafter handle the Oldsmobile in that territory under the name of Davis-Wood Motor Co.

### Brow is Glenn Sales Chief

**CLEVELAND**, June 14—Glenn Deuble, president of the Glenn Motor Sales Co., associate Oakland-Pontiac dealer, today announced the appointment of Frank F. Brow as sales manager.

### Display Attracts Crowds

**PORTLAND, ORE.**, June 14—Many vacationists and camping enthusiasts were attracted to the show windows of George V. Adams, Inc., Chrysler dealer, Portland, Ore., when that firm demon-

strated the manner in which camp equipment may be easily carried in a Chrysler 70 roadster. Through the courtesy of a hardware company, the window featured all the comforts of a "camping home," and all readily carried in the Chrysler roadster. Borrowing department store methods was found to be successful by this Portland automobile agency.

### Queen City Tire Men to Elevate Service Standard

**CINCINNATI**, June 16—Expansion of the work being done by the Tire & Battery Dealers Association of Greater Cincinnati during the coming year has been started by the new officers, who were installed here recently. Peter F. Duffy, president, plans an immediate membership campaign and also combined efforts of all members to create a higher standard of service to the public by the tire and battery men of this city.

Other new officers installed are: William Thole, vice-president; Harry J. Franz, secretary-treasurer, and Edward J. Corcoran, legal advisor.

### Thomas Returns to Coddington

**CHARLOTTE, N. C.**, June 13—Charles L. C. Thomas, for six years manager of the retail sales department of the E. & W. Motor Co., Lincoln dealer, has joined the retail sales organization of C. C. Coddington, Inc., Buick distributor, according to James E. Taylor, retail sales manager.

### Jensen With Foyer Motor

**MILWAUKEE**, June 14—Lawrence Jensen, for 14 years associated with the Milwaukee branch of the Buick Motor Co., has resigned to become associated with the Foyer Motor Car Co., 4503 North Ave., one of the leading Buick dealers in Milwaukee, as service manager.

### Denver Capitol Tire Moves

**DENVER**, June 14—The Capitol Tire & Rubber Co. formerly of 532 Fourteenth St., is moving into its new building at 321 Fourteenth St. Here it will have 5000 feet of floor space, with drive-in service.

### Olds Cincinnati Branch Adds Fourteen Dealers

**CINCINNATI**, June 11—Olds Motor Works has added 14 new dealers in the territory covered by the Cincinnati branch, according to announcement by R. C. Gilmer, branch manager. Included among the new Oldsmobile dealers are several who gave up other franchises. The list follows:

Cliff Jacobs Motor Car Co., Cincinnati; Mt. Airy Garage, Mt. Airy, Ohio; Oldsmobile Norwood Co., Norwood, Ohio; Queen City Oldsmobile Co., Somerset, Ky.; A. A. Clay & Sons, Indian Fields, Ky.; Dixie Motor Co., Middlesboro, Ky.; Hazard Oldsmobile Motor Co., Hazard, Ky.; Pineville Oldsmobile Co., Pineville, Ky.; Hermitage Motor Car Co., Nashville, Tenn.; Henry Motor Co., Corbin, Ky.; Madison Garage, Richmond, Ky.; Oak Hill Oldsmobile Co., Oak Hill, W. Va.; Schaeffer's Garage, Rupert, W. Va.; and W. C. Grimes Motor Car Co., Danville, Ky.

### Ingram Has Ford in Decatur

**ATLANTA**, June 13—The Ford Motor Co., Atlanta branch, states that Robert Ingram, formerly sales manager for C. E. Freeman, Ford dealer of this city, has been appointed Ford dealer at Decatur, Ga., an Atlanta suburb, to succeed E. F. Tuggle, who died recently.

### Sauers Adds Branch

**SPRINGFIELD, MASS.**, June 15—R. M. Sauers, dealer and distributor of the Marmon, Hupmobile and the Federal truck in Springfield, Mass., has opened a downtown salesroom for the display of passenger cars. This store is at Main and Winthrop Sts.

### Hupp Designates Short

**GREENSBORO, N. C.**, June 15—J. M. Short, general manager of the Short Motor Co., announced the closing of a contract for the Hupmobile dealership in this territory. J. B. Spough will have charge of the service department.

### Opens New Showroom

**BALTIMORE**, June 15—The Bittorff-Harrington Nash Co., recently appointed associate Nash dealer, has opened a new showroom at 815-17 East Fayette St.





*This new showroom of A. C. Almind, Studebaker dealer at San Bernardino, is considered one of the most beautiful in southern California*

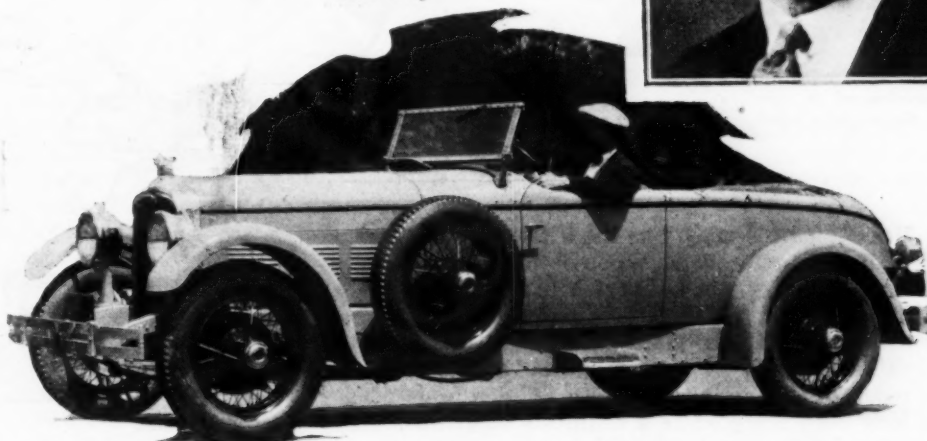
## MOTOR AGE

### *Pictorial Page*



*Earl L. Coons has been appointed manager of the new Oldsmobile retail store in New York City*

*The Black Hawk Safety Stutz speedster epitomizes all its name implies. A daringly prow-like rear deck construction gives it a striking "racey" appearance*



*This window executed by the Norwich Auto Parts Co., Norwich, Conn., is an attractive example of driving home a single suggestion*



*The annual Velie drive-away from the factory at Moline, Ill., resulted in the participation of a score of dealers who took away 125 cars*



# Direct Mail's Dealer Sales

*Direct mail follows as the next logical general magazine or newspaper and your own local newspaper elements of value are the care which is given*

By John



*Direct mail with proper nourishment is sure to flower into sales*

**D**IRECT mail is much like the little girl who had the little curl. When it is good, it is very, very good, but when it is bad, it is horrid.

And, while good direct mail advertising does not call for the exercise of genius, still, at its best it is the result of that infinite capacity for taking pains that has long been accepted as a definition of genius.

The essential difference between publication advertising and direct mail advertising is that the former is spread over all the readers of the community, the advertiser hoping that a substantial number of his prospects will be attracted by it and be influenced by it, while the latter is directed straight to those prospects, selected in advance.

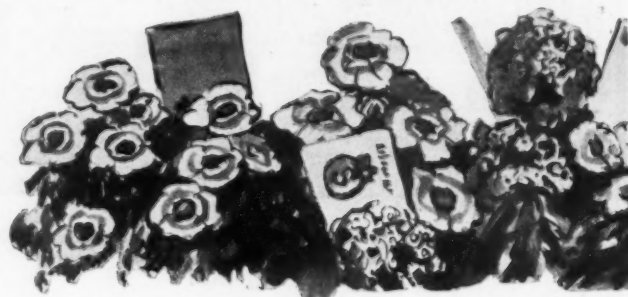
It is obvious, then, that the compilation of the mailing list forms a highly important part of direct mail advertising.

How many names should you have on your mailing list?

That is a question which you can answer better than anyone else. If you are running a service shop, your list can be as long as the total number of automobiles in your town. If you are selling accessories, the same thing is true.

If you are a car dealer, your list should include the name of every person in your territory who might buy your make of car. In the case of a car dealer, it has become the practice to take the number of cars in his allotment and multiply this by some arbitrary number—say, 5 or 10—and decide upon that as the proper number of names for a direct mail campaign.

This seems like a cart-before-the-horse method of figuring. How much more logical it would be for the dealer to make a painstaking canvass of his territory, write down the names and addresses of everyone who might possibly buy one of his cars, and then shoot the direct mail ammunition to all of them, with the idea of selling one out of five, or one out of every ten. The latter plan would boost his sales—and it is quite likely that the distributor, or the factory, could be prevailed upon to boost his allotment in proportion.



# Part in Promotion

*ical step in sales promotion after the advertising of your factory and er advertising. Its principal list, mailing pieces and the to the campaign*

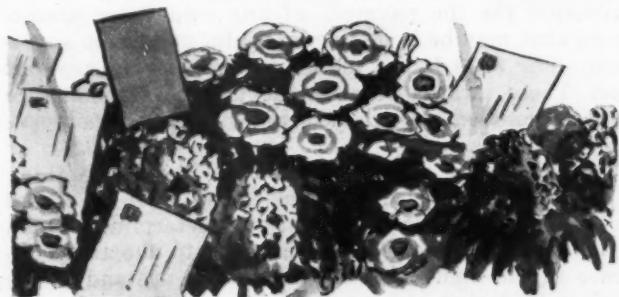
Cleary

Building a mailing list is a simple procedure. It requires only patience. A fair knowledge of the people of your community is desirable. And it is well not to approach the job with the thought of keeping the list as short as possible.

Don't be like the fellow who wanted to buy the automobile that would save him the most gasoline. "I suppose," said the wise salesman to him, "if you were having your house wired for electricity, you would want it done in the way that would save you the most juice. The best way to do that would be not to wire it at all. And the best way for you to save gasoline is not to buy any car. In that way you save an infinity of gasoline."

A good rule to follow in making up your list is, "if you are in doubt about a name, put it on."

The first names that should go on your list are the people in your own organization. To get the coordination that is absolutely necessary, it is imperative that all your employees should be familiar with all your sales promotion. Put down next the names of the present owners of the make of car you handle. After them enter the names of the people you actually know are prospects. Then make up the rest of the list from all the available sources: the owners of automobiles selling at the price of your car, and slightly above and slightly below that price; property owners; club members; taxpayers of known income; names secured from your owners and from other sources. If your territory is too big for you to be satisfied with your own compilation, you may purchase lists of men of known in-



You cannot be a merchandiser unless you use sales promotion. To promote means to move forward something in its course. Sales promotion, then, means any effort you use in moving forward your sales. Merchandising consists in putting forth efforts to move forward your sales. If you put forth no such effort, you cannot be a merchandiser. Therefore you cannot be a merchandiser unless you use sales promotion.

Direct mail follows as the next logical step in sales promotion after the general magazine or newspaper advertising of your factory and your own local newspaper advertising. The publication advertising goes to everyone—prospects and non-prospects. The direct mail advertising is intended only for those who might buy what you have to sell. Its principal elements of value are—the list, the mailing pieces and the care which is given to the campaign.

comes from companies specializing in the business of supplying such lists.

If your factory is conducting a cooperative direct mail campaign, you should send one copy of your completed list there and retain a copy for your own supplementary campaign. It is taken for granted that you will participate in the factory's campaign, because that will most likely be of a more expert character and at a lower cost than you could secure locally. But watch that factory mailing list for returns, for deaths, for misspelled names, additions, subtractions and all the other corrections that serve to keep a mailing list alive and up-to-the-minute.

But what is not taken for granted is that you will supplement the factory campaign with your own. Too many dealers believe that they have done all that can be done with a mailing list when they send it on to the factory. Nothing is farther from the truth.

You can add substantially to the value of that list if you only address a personal typewritten letter to a certain number of names from it each day, telling something about yourself and about your service, leaving it to the factory to say all the good things about the car you are selling.

You can add still more to the value of the list and to the direct mail effort by sending to the entire list, from time to time, a card or other piece of mail matter prepared by your local printer. This might be an invitation to a salon or special showing of your cars or even to a view of an especially snappy new body style you have just received. Or it might tell of an interesting service job you have just turned out, or a new piece of equipment you have installed, or a new wing you have added to your building. If you get in a new supply of catalogs, don't put them back on a shelf to gather dust, and don't be satisfied to display a few of them on a table in your showroom. If the factory direct mail

(Turn to page 31, please)





Thomas W. Wilson (above), of Wilson-Nash Motors Co., is chairman of the Merchants Appraisal Bureau executive committee. Max von Schlegell (right), of von Schlegell, Inc., Hupmobile distributor, is the originator of the Czar idea

# A Used Car

*That's the Answer*

*Organize Merchants Appraisal  
Supreme Authority in  
Attorney General*

By Robert

needed no defense and it struck a popular chord among the dealers.

The organization that has been effected by the Baltimore dealers is known as the Merchants Appraisal Bureau. It has no connection with any other trade or similar organization. A basic plan of operation, an arbitration agreement and rules and regulations have been adopted and an executive committee elected. This committee is composed of Thomas W. Wilson, of the Wilson-Nash Motors Co.; Theodore E. Straus, of the United Auto Sales Co., handling the Studebaker, and Howard S. Biscoe, of the Lambert Auto Co., representing the Hudson and Essex in Baltimore.

Although there are many ramifications in the plan now in effect the crux of the entire system is centered in two outstanding features. These are the fact that the word of the arbitrator is absolutely final, from which there is no appeal, and that there is no guess work involved in placing a value on a used car. The value is determined in a manner which is absolutely fair to all parties concerned—the owner of the used car who wishes to dispose of it, the dealer handling the transaction and the ultimate buyer.

It is stated that the membership of the Merchants Appraisal Bureau is made up of dealers who sell approximately 85 per cent of the so-called moderate-priced cars in Baltimore. The membership cost to each dealer per year will not exceed \$1,500.

All dealers becoming party to the agreement that has been adopted are called upon to make a deposit of \$500 with the treasurer of the bureau. This is held as a guarantee for the payment of any awards or assessments that may be levied against him under the agreement. The \$500 is the maximum liability in any one case. These awards or assessments are in the nature of fines imposed upon a dealer for failure to observe the regulations.

The agreement declares that there is no such thing as an established price or standardized value of a used car and its sound value can only be determined by an appraisal. It is pointed out that due to the rapid increase in the number of automobiles in use and to the changes in design and mechanical construction as well

**F**OLLOWING the plan adopted by the professional baseball world, the motion picture industry and some other important lines of endeavor, a large number of the automobile dealers in Baltimore have appointed what might be termed a Czar to have complete and final control in controversies involving used cars. Although the system has been in operation only a short time the dealers are greatly pleased with the way it is working out and many of them are of the opinion that it will prove to be the solution of one of the most perplexing problems they have been called upon to face.

In the selection of a man fitted to fill the high office of what the dealers call the "Judge Landis of the used car trade," whose word would be final and from whose decisions there would be no appeal, care was taken to not only find one who was not connected with the automobile trade either directly or indirectly but also to secure the services of a leader who is an outstanding figure of the state. Their efforts have been crowned with signal success. The man who agreed to become the Czar of the used car trade is Edgar Allan Poe, without doubt one of the leading lawyers of Maryland and a former Attorney General of the state. Mr. Poe now is in full control of the situation.

The plan that has been adopted and is now working out so well was originated by Max von Schlegell, of von Schlegell, Inc., Hupmobile distributor. He had given the subject considerable thought and finally invited a number of the dealers to attend a dinner at the Maryland Club. Following the dinner he informed them that he wanted to submit the plan to them for their consideration and that he would attempt to defend all features of the system. However, it proved that the plan



# Czar

## of Baltimore

*Appraisal Bureau and Delegate  
Decisions to Former  
Attorney General of Delaware*

E. Smith

as to the elimination and addition of manufacturers of cars, it has become increasingly difficult to even properly and fairly appraise used cars, this difficulty often working hardships on the owners, on the dealers in new cars who accept used cars in trade on new ones, and on the purchasers of used cars from such dealers.

"In fairness to everyone concerned," says the agreement, "used cars should be appraised with a due regard to their reconditioning cost and their resale value, and in fairness to everyone concerned each used car should be bought and sold by the dealers strictly on its individual merit and with a due regard to the market for its resale.

"When a used car has been bought on the basis of its sound value, the integrity of the investment ought not to be unduly disturbed or jeopardized by sacrifice sales brought about by unwise trading in used cars at unsound values. In Baltimore City the dealers' losses alone due to unsound used car trading amount to hundreds of thousands of dollars annually, and for the purpose of eliminating this loss and in the hope of at least substantially curtailing it, the parties signatory hereto have united in this undertaking."

Each member of the bureau has agreed to be governed solely by these principles and each appraisal is considered as made for each and every member, with the dealer making the appraisal really acting in effect as the agent for all the other members as well as representing himself. They agree that they will accept no used car until it has been appraised according to this plan and not to accept it in trade at a value directly or indirectly in excess of the appraised value.

In carrying out the spirit of the agreement the dealers have concluded that any problems can be solved



*Edgar Allen Poe, former attorney general of Maryland, who accepted the sceptre of supreme authority*

better by arbitration rather than in the courts and for this reason they agree that in the event any complaint or dispute arises under the agreement it shall be referred to the arbitrator, who has the power to investigate all violations of the agreement brought to his attention and all disputes between two or more members and render such remedial award he considers right and proper, which award is binding and conclusive on all parties involved.

In order to provide for any changes in the system the





# Gazing Into The Promising Automotive Future

*Four-Speed Transmissions Find Society of Automotive Engineers Divided; Double-Filament Lamps Also Elicit Divergent Opinion. Factors Affecting Normal Brake Operation Discussed*

By Norman G. Shidle

Editor, Automotive Industries



ENGINEERS of the automotive industry gathered recently at French Lick Springs for their annual summer meeting. Before their four-day session ended they had staged at least three lively arguments about topics either of immediate or future importance to the wholesalers and retailers of the industry. It can't be said that they came to any definite conclusions as to whether a double-filament headlamp should have one or two adjusting screws; as to whether metal shoes or fabric linings have the best characteristics for brakes; or as to whether or not four-speed transmissions are destined to become far more common in the future than they have been in recent years. Every one of these subjects did bring out some very definite differences of opinion, however, and resulted in some quite specific statements on the part of several leading engineers.

W. W. Mathews of the Commonwealth of Pennsylvania was the chief proponent of the two-adjustment lamp during the headlight discussion. Equally positive of the advantages of the single-adjustment type was A. W. Devine, representing the Commonwealth of Massachusetts, while C. C. Bohner, of Tung-

Sol Lamp Works, suggested that efforts should be made to eliminate entirely all adjustment on headlamps.

The chief contention of the single-adjustment advocates was that the double-adjustment lamp cannot be adjusted by anyone not specifically trained for such work and that the average motorist and service mechanic cannot do the job, whereas the adjustment of the one-screw type is pretty well understood. The argument of this group regarding the difficulty of proper handling the double-adjustment type seemed to be pretty well borne out by an experiment carried on in front of the audience. Charles M. Manly, a former president of the Society of Automotive Engineers, not being particularly acquainted with either method of adjustment, was called upon to make adjustment of both types, using as his guide in making the adjustments merely the instruction sheets issued by a motor car manufacturer. It cannot be said that the completion of the two-screw adjustment was accomplished very readily. Judging from the results of this particular demonstration it would seem that the single-adjustment lamp has the advantage in ease and

(Turn to page 39, please)

Complete brake service, according to Alvin M. Yocum, of the Multibestos Co., should cover the following, in addition to the usual operations:

1. Lubricate all points of the braking mechanism where there are bearing surfaces, including anchor cleat and pin.
2. Adjust bolt and bell crank bearing at drum.
3. Remove drum rust, steel filings and road dust from the lining with wire brush.
4. See that ends of band move tangentially to drum at point of contact.
5. Fit the lining as close to the drum as possible to keep out moisture.
6. Re-drive rivet heads at least once during length of lining life.



# Hazards! Col.

## Kernels of Websterian Wisdom

*"The friendly feeling of the dealer is a very important asset to manufacturer and jobber—an asset that is not sufficiently protected or vigorously enough preserved."*

*"There has been a tendency among manufacturers and jobbers to become 'high-hattish' as they grow larger."*

**F**ORE!  
The stance—the sight down the fairway to the pin—the swinging drive—the crack of the club—head on the teed-up ball—the swift winging flight down the fairway—a breathless second or two—and a pleased smile as the pellet drops to smooth ground and rolls true to a position within easy approach of the green. Over all the hazards—traps and bunkers and rough—a satisfying drive that is half the thrill of golf.



## Commissioner Webster Re- ing Manufacturer, Job Some Plainly

The object of golf looks easy—to drive a small white rubber-jacketed ball into nine or eighteen or thirty-six cups or holes in succession, with the fewest possible blows or strokes of clubs. The thing is simple to do provided you can drive the ball down the fairway. But there are obstacles—bunkers, traps, water-courses—to be avoided. Sometimes it would be almost a miracle to avoid them!

But what golfer expects to avoid the hazards! The hazards are half the fun of the game. What could be more monotonous than constant smooth sailing in a yacht? What more irksome than a windless, waveless sea or lake? It is the squall, the sudden storm, that gives the skipper the chance to show what he can do in an emergency; and when he maneuvers his craft to the harbor, after combatting the elements, he feels that he has accomplished something worth while.

What are the hazards of the automotive-equipment game? Let us look at them from the point of view of the manufacturer, the jobber, the dealer. The problem of the good manufacturer, the solid, responsible fellow making solid, dependable merchandise, is to find a worthy jobber. Once he has found his jobber, he should stick to him like a brother. The problem of the jobber is to pick a conscientious, responsible manufacturer—and then stick to him, selling the trade for all he is worth. There are hazards enough in doing just these two things. Let's see what they are:

From the jobber the manufacturer must expect loyalty, whole-hearted cooperation, constructive sales effort, personal responsibility. Statistics show that automotive jobbers are among the most successful and dependable in the world in these particulars.

The jobber, in his turn, should expect from the manufacturer four essential things—(1) a real merchandising policy—(2) real cooperation—(3) that the merchandise be backed up by competent advertising—(4) real financial strength to make the most of opportunities. Lack of these things, or some of them, constitutes a hazard of big proportions.

More golf balls are lost in the tall grass than anywhere else on the course. The "tall grass" in the automotive equipment field is waiting for the manufacturer or jobber who doesn't aim well or who tries to spread out too far. Cover your own territory—and cover only

# Bogey Gets it in the Neck

*views a Condition Involving  
ber and Dealer and Gives  
Spoken Advice*

By

William M. Webster

the territory you can cover *thoroughly*. A common source of business difficulty is trying to spread too widely and, as a result, merely spreading THIN.

If anger and blasphemy are among the deadly sins, then the ROUGH of the average golf course is one of Satan's happiest hunting grounds. There is a ROUGH in the automotive game—a mental hazard if ever there was one—a self-created hazard, at that. There has been tendency on the part of manufacturers and jobbers to get out of touch with the trade, to become "high hat-tish" as they grow larger. The sales manager generally is a pretty busy man, but he never should be too busy to get out into the field and make a hand-shaking, goodwill tour. The friendly feeling of the dealer is a very important asset—an asset that is not sufficiently protected or vigorously enough preserved. The salesman can look after the selling of the goods, and, maybe, do a lot of quiet but effective selling of the House. But the sales manager is the player who has to baste the ball down the fairway for the House. It's his job to keep the dealer sold on the firm while the man with the samples sells the line.

Bunkers look as big as lighthouses sometimes, and the ethical problems involved in fair-trade practices often are difficult hazards to get over. The member of the industry who never shirks his responsibility to raise the ethical level of the game is going to win in the long run. The chap who cuts corners while he is playing the game sooner or later is going to find himself under a cloud that eventually will precipitate a deluging downpour. The clean, conscientious player is the popular and winning one in golf or in business.

Water is a hazard in the game of golf in more ways than one, especially since they abolished the "19th hole." It usually meanders across the course at the bottom of some long hill on a long hole, and is usually wide enough to float the ball nicely out of reach. The matter of service is the water hazard in the equipment game. It's such a fluid proposition to begin with, and in the second place the public is apt to prefer the dealer—and the dealer is apt to prefer the jobber—who

builds a service bridge across the deep water, instead of a chap who asks you to ford the stream or go around the lake on the footpath. He who serves best profits most. It's the winning game, if you give service, and it's the losing game if you don't.

Sand traps are one of the signal inventions of the particular fiend who devised the hazards of golf. When you get into one of them on a bad "lie" and the sun is playing a tattoo on your spine and the rest of the foursome are gathered around pityingly and making helpful suggestions, you curse the day you became a player in this fascinating, irritating game. The automotive-equipment course has some of the outstanding "sand traps" on the business links. There's the "gyp"—the

(Turn to page 38, please)

Commissioner  
William M.  
Webster





# Sore Thumbs!

## But Blessings Undisguised

*Novelty of Advertising Layout is  
Real Asset to Garage or Service  
Station Proprietor Who Re-  
members That Survival  
of Fittest Applies to  
Users of News-  
paper Space*

By Fred B. Porter

THERE is no overlooking them. They assert themselves in no uncertain terms.

Garage advertisements that come in the class of displays outlined in the foregoing quotation by an advertising expert, are being found more frequently.

They assert themselves by having novelty of layout a quality that is necessary today. This necessity was made plain by W. Livingston Larned in his book "Illustration in Advertising."

"In a generation which has brought a large volume of advertising, and which has made competition in display a significant problem, the layout becomes paramount, for novelty of layout means superiority of attention-compelling value. 'How can the advertisement be made to stand out?' is the question."

Real proficiency is being displayed by garage proprietors in utilizing to real advantage the materials provided by the newspaper. These materials are in two classes—the lines or rules that can be used for borders and panels, and the designs which the local paper supplies from its cut service for the local advertiser's use.

These materials are frequently juggled in an interesting manner, together with a wholesome amount of white space, so that the garage proprietor's advertisement stands out above everything else on the page.

It is worth calling attention to that not all of the good garage advertising is being done in the largest cities. Some of the accompanying illustrations are from cities of modest size. In fact, if you were to make a survey of all the garage advertising done in the newspapers you would agree that in many cases, the metropolitan garage proprietor—and the large city garage proprietor, too—could take a few lessons in advertising appearance from some of the smaller fellows.

This is not entirely the garage proprietor's fault. He does not profess to be an expert on advertising layout and it is left up to the printers. In the smaller

They made their advertisements hard to overlook:

- 1—New Philadelphia, Ohio
- 2—San Diego, Calif.
- 3—Mexia, Tex.
- 4—Seymour, Ind.



places he generally fares pretty well by doing this. In the larger places he may not come off so fortunately and get a high average of interesting-looking advertisements. The garage proprietor in the "smaller large cities" as they are called, is faced with the necessity of exercising closer supervision over his advertising. Just why he must take on this extra work is indicated in what J. L. Frazier said recently in *Inland Printer*:

"In the metropolitan centers many advertisers have their advertisements set by special typographers, and in the Chicago papers we therefore find many handsome advertisements. In small towns where the volume of advertising is also small—and where the stress of getting it into type is not so great—there are many papers of fine typographical appearance. In the smaller large cities, however, where the volume of advertising is sometimes very heavy in relation to the force—and where the interest of advertisers in typography is not of any consequence—we find, as a rule, the papers are bad typographically."

Among the characteristics of advertising that stand out on the page are:

Borders with heavy corners and light sides and top and bottom. Light sides are made by joining on to

the heavy corners two thin lines, leaving a space between them.

Borders eliminated entirely with the exception of the heavy corners.

Panels in panels, one after the other.

Light-bordered panels inside of heavy ones.

Panels floating in areas of white space.

Striking borders, supplied by the local newspaper, to enclose the message.

Among the many other methods of getting advertisements that "assert themselves in no uncertain terms" are:

Combining several small advertisements into a large one, repeating the same border or design several times in a single space. This is possible nowadays because after the first cut or engraving is made, duplicates can be cast from the original; most papers have stereotype casting outfits.

Using "Long John" advertisements. The "Long John" is the trade name for the full single column advertisement. Among its distinct advantages is that it has not so many local users; the block-like area is favored by local merchants. One of its biggest

assets is that no matter what the make-up policy of the paper, the full column must be placed on one of the desirable outside columns of the page.

Placing illustrations at an angle instead of squarely across the column.

In fact, there is no end of pleasing arrangements if one is inclined to experiment in the effort for unusual layouts.

But somewhere there must be white space as a magnet for the eye.

A garage proprietor's advertisement that strikes out for itself in arrangement is in keeping with the modern tendency. It must take on that appearance in self-defense—even go farther. Such an advertisement takes on the qualities outlined in *Printers' Ink*, by a commercial art manager:

"It means individuality. It means character where to 'stand out' is no small task. The advertiser is thoroughly conscious of the fact that there are hundreds of advertisements and that he must, of course, bring strong composition to bear. The rule of the survival of the fittest has fallen back on character in layout."

## Direct Mail's Part in Dealer Sales Promotion

(Continued from page 23)

campaign does not take care of their distribution, send a return postcard out to your mailing list and ask the interested recipients to return the card, requesting a copy of the catalog. This goes for other attractive literature, as well as catalogs. Old stuff, but the successful dealers are patiently going through with these details, in spite of that, while the unsuccessful ones are looking for something new and brilliant and clever.

As to the character of the material that goes out to your prospects. Of course, you cannot control the nature of the mailing pieces in the factory campaign. At that, it might do you no harm to suggest the desirability of a change of pace, meaning a departure from monotonous uniformity in the size and appearance of the envelopes and enclosures, and a similar departure from uniformity in the mailing dates.

To get the best results, direct mail advertising should have a freshness about it, in its exterior aspect, so that the recipient will not immediately throw it in his wastebasket because it looked exactly like something he received last week or last month. You can surely take care of that phase in your own direct mail pieces.

All types of advertising have developed amazingly during the last decade. It may be said truthfully that direct mail has grown more than any other kind of advertising, because it does not suffer from the limitations of the others. There are no limitations of size or shape or color. An advertiser can do almost anything he wants with direct mail. The result is a versatility of treatment that is not to be found elsewhere in the realm of advertising. There are two lessons you can learn from this circumstance:

First, your direct mail should be of a character to compete with all the rest of this class of advertising clamoring for the attention of the persons on your list.

Second, by studying the direct mail matter that is addressed to you, you can reach some conclusions as to the kind that is read and the kind that is thrown into the wastebasket unopened. You can almost take it for granted that the type of mail that you cast aside without looking at it, is the kind for you to steer away from in your own campaigns. The material you look at, and keep, you should study, with the idea of finding

out what there is about it that demanded your attention, and then try to get some of its characteristics into your own mailings. First class postage, correctly spelled names and an attractive exterior are cardinal principles making for the efficiency of all automotive direct mail advertising.

Then again, direct mail should not be a mere repetition or reproduction of magazine or newspaper advertising. The function of direct mail should be to give the prospect much more information than it is possible to give him in a published advertisement.

If you think of your direct mail, not as a haphazard adjunct to your advertising that may or may not produce results, but rather as part of a well-planned sales promotion effort to bring as many possible buyers as possible into your store, or into your car, or into contact with yourself or your salesmen, you will at once realize that, in dropping the mailing pieces into the mailbox, you have only started something.

In business, as in fighting, it is good policy not to start something that you can't finish.

The way to finish your direct mail is to follow it up.

You or your salesmen should call on every name on the list. Put aside a part of every day to this important job. Without this follow-up, you might as well save the money you spend on direct mail.

Then follow up each call with a letter. If the prospect was not in when you called, write him and tell him that and try to make an appointment for a later date. If he was in, thank him for the courtesy of the interview. If he seemed at all interested, feature in your letter the point that seemed to interest him. If he offered an objection to your car, answer that objection in perhaps a better way than when you talked to him.

The telephone also should be used in following up your direct mail efforts. It has been said that a letter and a telephone call can reach a man at times when a salesman cannot even approach him. There is danger, however, in overdoing the telephone interruption. It is poor salesmanship to attempt salesmanship over the telephone. It will serve its purpose best for you or your salesmen to make appointments for a call or a demonstration.





# SPRINGS— *the Foundation*

*It Rests With the Service Man  
Whether or Not His Customers  
Car Will be Silent, Comfortable  
and Economical to Operate*

By C. Edward Packer

WHO would have believed it," remarked Mr. Williams, as the springs of his car were laid out on the bench for servicing. It was just then that he realized the number of square inches of bearing surface that they represented.

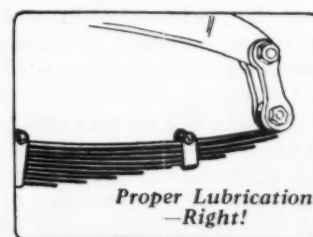
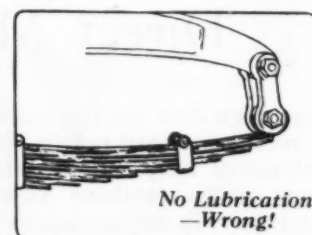
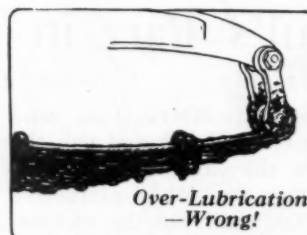
"More bearing there than in your engine," suggested the mechanic who was performing the operation that was soon to restore the old time comfort to Mr. Williams' car.

He was right. The average car has far more actual bearing surface in its springs than it has in its engine. Not only that, but the load on these surfaces is incessant and at times very severe. When it is considered that these bearing surfaces are exposed to moisture and grit as no other part of the car is, it is little wonder that a car is hard riding when service to these vital parts has been neglected.

While there are many types of springs the principle of all of them is the same. Spring action consists of several strips of steel bound together and sliding over each other. In the manufacture of the car the exact sliding resistance of the spring is known and anything that alters this will affect the riding qualities of the car.

In the characteristic spring the load causes the spring to flatten which stretches it out. The main leaf, being carried on shackles of one type or another changes position slightly. The next leaf slides considerably on the main leaf, and so on down to the smallest leaf which has the least motion of any of them.

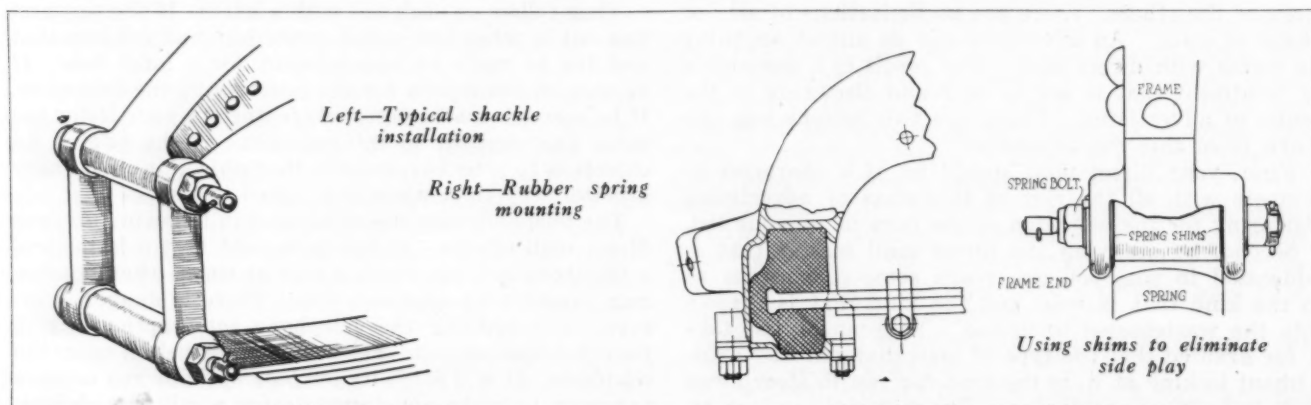
The shackle, until recently, consisted of a pair of arms that served as a hinge between the free end of the spring and the frame. In the last few years shackle developments have brought out the "Belflex" shackles,



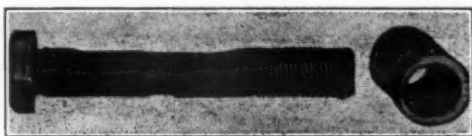
Illustrations from Eaton educational campaign

of flexible steel, and the rubber shackle method of spring mounting, though the first mentioned kind still predominates.

Until recently most service men felt that there was no such thing as too much oil on springs. When cars "galloped" and "hit bottom" the springs were frequently condemned as being too soft. In reality they were fre-



# of Satisfactory Car Operation



*Such bolts and bushings should never be put back*

quently just over-oiled and the sliding resistance was reduced to such a point that the springs could not support the car properly.

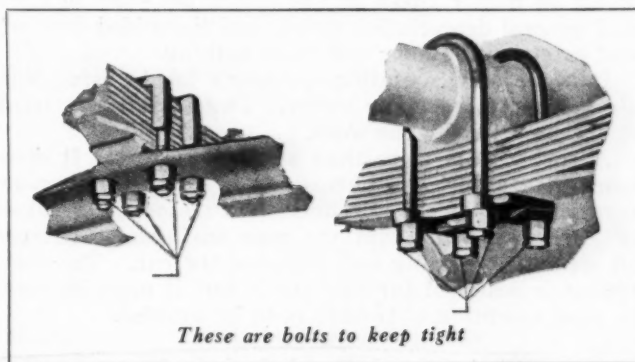
The other extreme is where springs receive no attention. In such cases the springs soon become rusty. The surfaces that should slide freely over each other become rough. In time the spring becomes as stiff as a solid bar of steel. It is unnecessary to mention that a spring in such a condition utterly ruins the riding qualities of a car. This results in high maintenance costs from shaking the vital parts of the car and from pounding miles of service out of the tires.

Where either over-oiling or rusting is present in a spring the spring life is greatly reduced. In the case of over-oiling the rebound action of the spring results in premature breakage. Where the leaves are rusted together a severe bump or overload will break the spring—probably near the center.

There is, however, a happy medium, in spring lubrication that makes happy car owners, by making the car ride as it was designed to.

This happy medium can not be attained by promiscuously bathing the springs with oil. According to the Eaton Axle & Spring Co. of Cleveland, Ohio, automobile springs should be removed and thoroughly serviced every 7500 to 10,000 miles—or at least every year. The Eaton company is conducting a campaign to educate car owners and shop operators in the ways of improving car riding qualities while at the same time keeping operating costs down by preventing rough riding. At the same time such preventive service is yielding nice profits to those who aggressively sell the idea to their customers.

While it is not recommended that springs be run



*These are bolts to keep tight*

without the addition of oil during the intervals between servicing, the oiling that they receive should not be excessive.

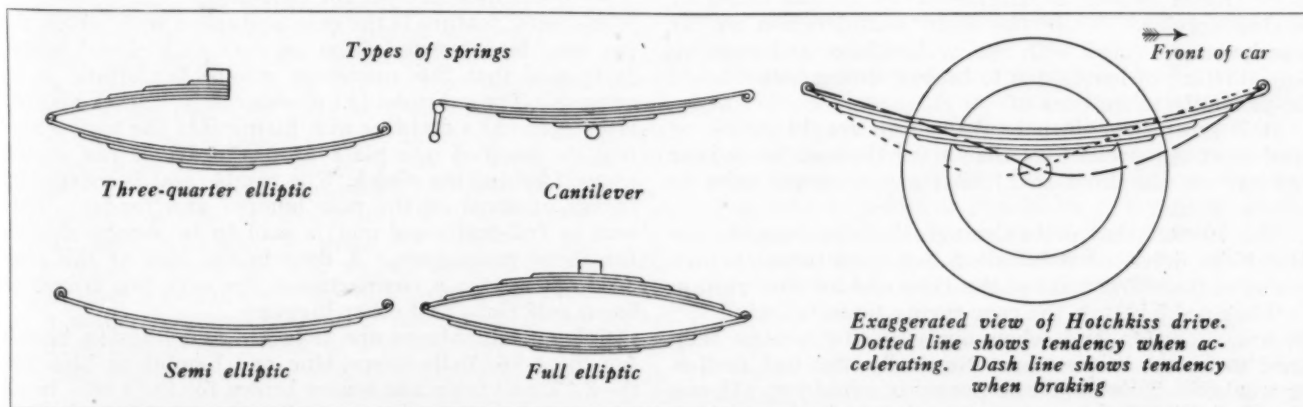
At the intervals suggested the car should be run on the service rack and the weight taken off of the springs. The springs should be taken out and disassembled on a bench.

When the leaves are separated all traces of rust and dirt should be scraped off and the leaves polished with steel wool or emery cloth. After they are thoroughly cleaned, they should be given a coat of graphite and be reassembled.

At this time it is wisdom to replace worn shackle bolts and bushings. The service man who neglects to call this to the attention of his customers is not giving them the service that they have a right to expect and is also overlooking a source of nice profit.

Great care should be exercised when putting the springs back on the car to see that the spring clips are drawn down tight. Looseness of the spring clips is the cause of much spring breakage. This is one of the places on the car that should be frequently inspected between the periodic spring overhauls.

While the spring service just performed will make a remarkable difference in the riding qualities of the car there is another job that can be done now to advantage. That is—remove the rattles caused by a side play in the shackles.





All too frequently this is done by merely drawing up on the shackle bolts, thus cramping the spring between the spring bracket or frame end as the case may be. A much better way is to install shims as shown in one of the illustrations. This gives a true, square bearing surface for the sides of the spring thus eliminating rattles in a way that is permanent.

It is a wise car owner who has his car springs regularly inspected and serviced. Many an accident could be avoided if all owners would have this work done regularly. "Can't afford it," some may protest but they would be money ahead at the end of the year on tires and general depreciation saved, and the added comfort and safety would have cost them nothing.

It is the service station operator's job to bring this story home to each car owner. Those who have tried it are profiting by the work.

A spring does more than support the car. It does more than absorb the bumps. It is expected (in most cars) to hold the axles in line. In a majority of makes of American made cars the rear spring also carries all strains of driving and stopping the car. The rear spring is designed for this strain but it must be kept in good condition if trouble is to be avoided.

#### What Sagged Front Springs Mean

The front springs control the axle castor. All front axles are so held that the king pin axis gives the front wheels a castor action. This is of great importance in holding the car on a straight course and in getting it to "straighten up" after rounding a corner. As most of the cars today have the front of the front spring bolted to the frame horns it will be seen that any elongation of the spring, due to over-lubrication or weakening, will tend to reverse the castor angle.

On cars that have had their springs over-oiled it is not unusual to see them "shimmy" as a direct result of galloping which causes the axle to rock back and forth. This rocking constantly changes the castor angle.

Of course the breakage of a spring, particularly a front one when running at high speed might be very serious, as it is likely that the car would leave the road—or worse yet crash head on to a car coming from the other direction.

If one front spring has sagged—possibly because of broken leaves or an uneven load on the car the angle of the front axle is changed. That is, the front axle is held parallel with the rear axle only when the springs are as they should be. If one spring sags, and hence lengthens out a bit, the front axle will be thrown out of line. In the case of cars with straight springs that have weakened and the spring has humped up at the axle misalignment will also result.

Many mysterious cases of excessive tire wear have been traced to axle misalignment which was cured by spring service. While the main consideration so far has been connected with spring breakage and sagging any shifting of leaves due to broken spring bolts should be promptly taken care of.

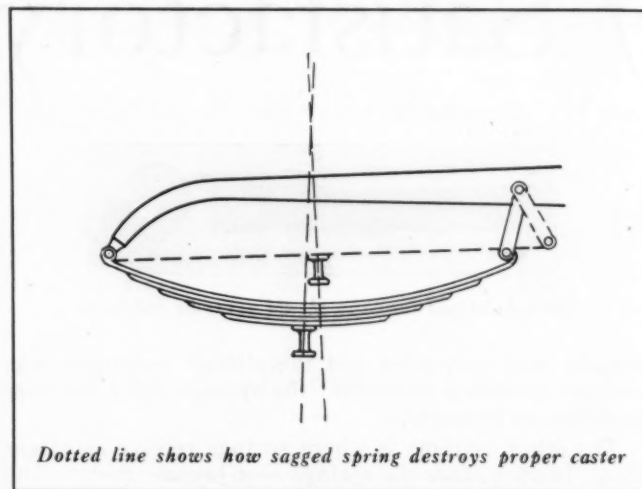
It is interesting to note that there are 79 makes or models of American cars that drive through their rear springs as compared to 21 that use a torque tube or torque arm.

The 79 cars that drive through their springs, or use Hotchkiss drive, as it is called, call upon those springs for more than alignment of the axles and for easy riding.

When accelerating, the rear spring tends to "wind up" in one direction and when applying the brakes they tend to go the other way. Naturally any lost motion or weakness here should be promptly cared for. If one spring is weaker than the other, due to broken leaves,

over-lubrication or fatigue, this "winding up" action will be unequal and the axle will be thrown out of line momentarily with consequent strain on all parts.

Every one has noticed the hard, jerking and bumping action that accompanies the sudden application of the brakes in some cars when on a rough road. This is



caused by the "winding up" of the spring and the sudden return to normal when the tires bounce and lose traction momentarily. While this can not be entirely eliminated, it is a big help to have the springs in good condition and the spring clips tight.

Springs are the foundation upon which a satisfactory car is built, and it is a wise service man who sells the service that prevents the car from playing the meddlesome "Spring Song."

It is too much to expect that shock absorbers or snubbers can make up for improper spring action. These worthy accessories, however, are a great advantage when used on springs that are in proper condition.

#### Ease of Conversion Features New Auburn Body Style

THE latest body style produced by the Auburn Automobile Co. is a convertible coupe or cabriolet with a rumble seat. This body is being built for all three of the Auburn chassis models, the prices being \$1,295 for the 6-66 model, \$1,595 for the 8-77 model and \$2,095 for the 8-88 model.

This body style has been designed with the idea of keeping the weight down so that power and performance will be comparable to that of a roadster. The maximum speed range is said to be from 60 miles an hour for the 6-66 to 80 miles an hour for the 8-88.

A special feature is the ease and speed with which the car may be converted from an open to a closed model. It is said that this operation can be performed in 23 seconds. The cabriolet is upholstered in leather and the front seat has a dividing arm fitting into the back which may be lowered into place after the driver has seated himself behind the wheel. The rumble seat is entered by means of steps on the rear bumper and fender. This seat is full-cushioned and is said to be roomy enough for three passengers. A door in the side of the rear deck opens into a compartment for carrying traveling bags, golf clubs and other luggage.

Color combinations are moleskin and Russian brown for the 6-66, Rolls-Royce blue and bambilena blue for the 8-77, and fawn and beaver brown for the 8-88. In all cases the fenders are lacquered to match the body.

# What's This I Hear About a Used Car Problem?

*An Open Letter From a Member of the Automotive Fraternity  
Who Tells Why He Can't See a Problem  
Even With a Microscope*

By Charles H. Emmons

**F**OR the life of me I can't see why the used car should be a problem, now or ever.

It seems to be accepted as a fact that used cars mean losses, and that the thing to do is to keep the losses as small as possible. And again I ask you, why? Why not a profit?

I am reminded of an old friend who handled a well-known car, now extinct, in the "good old days" when it required a lot of nerve and a world of faith to drive ten miles from home. Some one asked him how was business. He replied, "Fine, fine! We lost a lot of money last year, but we won't lose so much this year." That was his idea of good business, and it seems to be the idea of a lot of dealers in regard to used cars today.

Why all this talk about scrapping obsolete and worn-out cars? Is there anything else to do with them? Why not take it for granted that junk is junk and let it go at that? Why should it be necessary to tell a lot of grown men that the place for a worn-out car is the junk yard? Why should a dealer have a quota of old cars to scrap? Why not take it for granted that he will scrap every piece of junk that he gets his hands on? Is there anything else that he can do and still call himself a business man?

Let's size this used-car business up, and see if there is any good reason why it should not be a money maker. First let's get the new car out of the way as the used cars that we are talking about are traded in on them. To obtain new cars the dealer must pay for them in good hard cash of the realm. It goes without saying that he must sell them for cash or its equivalent in good notes and used cars at their real value or he is up Salt Creek without an oar. In other words he must take in as much as he pays out to break even, and more if he is to show a profit. In case any dealer is not sure of this, his children, if they are of school age, can prove it to him. So much for that.

When I was a boy, and we had no used cars to pester us then, I heard a country storekeeper tell his son that it was a very simple thing to make money. All he had to do was to sell goods, at a profit, and get his money. That was true then, and it is true today.

I claim that the used car can be, and by all means

## MEMO

To . . . The Reader  
From . . . The Editor

This contribution by one of the brethren deals with a subject of known importance. In composing it the author drew upon a fund of experience. You'll find that Charlie Emmons talks turkey appetizingly.

should be a very important source of profit to the dealer. The used car department is the neck of the bottle, through which must come the net profit "if any" made in the business.

The used car should not be treated like a poor relation, accepted grudgingly, shoved off in the darkest, most inaccessible part of the building, to be gotten rid of in any way possible. The acceptance of used cars in part payment for new ones, has been the custom for so long, and is so firmly established, that the used car, like the needy, will probably

be with us always.

The three steps in the merchandising of used cars, and I think, the order of their importance, are first, the purchasing, or appraisal; second the reconditioning, and third, selling. Too many merchants seem to think that the used car problem is purely a matter of salesmanship. The used car manager is too often selected for his selling ability only, the theory being that if he is a good "used car jockey" he must of course, be a good used car manager. This I think is a fallacy. As well say that a good real estate salesman would qualify as a first class architect.

First comes the appraising of the used car. The appraiser should be posted right up to the minute on his market. And he should have the courage of his convictions. If his appraisals are too low, his new car department suffers for lack of business. If they are too high, the used cars cannot be reconditioned and offered for sale at prices that will keep them from piling up on the salesroom floor.

Next in order comes the reconditioning of the used car. And, right here, let's start building up the profits. The dealer is in business to sell goods at a profit and get his money, and he should not overlook a market on which he has a monopoly, his own used car department. Everything practical should be sold to the used car. The used car manager must know exactly how much can be profitably put into each used car. A four-year-old car will not stand the expenditure that a two-year-old car will stand. It is strictly a case of "knowing his groceries." All work and material, new tires, refinish, etc., should be charged to the car at a fair retail price and if the dealer is not equipped to do this at a profit



he should immediately find out how come.

Time is a very important element in used car merchandising, and is too often overlooked. In these days of Duco and lacquer 15 days should be the extreme limit of the limit that a used car should be in stock before being offered for sale. The car should be turned over to the shop and work started on it the day that it is received and it should be kept moving until it is on the salesroom floor. It costs money to keep a used car, and the longer it is kept the harder it is to sell and the less it will bring.

Now let us price the used car. The car should have been bought at a price that will permit a fair profit to be added without making it too high to sell readily. But two profits should not be charged. If the original appraisal price was \$400.00, 20%, or \$80.00, should be added. If total reconditioning cost \$100.00 the car should be figured \$400.00 plus \$80.00 plus \$100.00, total \$580.00. If the used car manager knows his business the car will find a ready sale at the price.

Right here I think that I hear some of the brothers say that all this can't be did, because their competitors, including the Gyps, will advertise the same models that they have not rebuilt at much lower figures, thereby attracting all the business. I will answer that by saying that no honest man ever made any money trying to beat a Gyp at his own game. Also by stating the fact that nearly every city and town in the United States is full to overflowing with "as is," junky, used cars, and that there is now, and always is, a scarcity of honest-to-goodness, rebuilt, used cars. Cars that we ourselves would not hesitate to start on a long trip in and expect to enjoy ourselves while we were taking the trip. Also will state that the public are motor wise and know real value when they see it. Good used cars, priced right, well advertised, with competent salesmanship, will sell now and always would, and I think always will.

#### High Grade Salesmen Necessary

Now comes the selling of the used car. It is just as important that the used car salesroom should be clean, attractive, and of easy access and the cars displayed properly, as it is to show new cars to their best advantage. Last but by no means least comes the used car salesman. He should be fully as high grade, and if anything more experienced than the new car salesman. It seems to be the thing to put the least successful salesmen in the used car department, partly, I suppose because the high grade men prefer the new car department. And with used car stocks as they generally are they cannot be blamed.

But high grade cars will command high grade men, and I have never seen salesmen turn up their noses at a high grade used car stock. In fact if the stock is well kept and priced right, the trouble generally is to keep the new car salesmen from "butting in" to the used car department's business.

#### A Few Thoughts for Your Scrapbook

**I** CLAIM the used car department is the neck of the bottle through which must come the net profit, if any, made in the business.

"The used car should not be treated as a poor relation, accepted grudgingly and gotten rid of in any way possible.

"One reason that money is lost on used cars is that very few dealers are equipped to handle them, and I would like to know why.

"The average service manager's attitude towards the used car is that it is something to patch up any old way when his men have nothing else to do.

"First impressions count for a lot in the used-car business."

One reason that money is lost on used cars, and one that is very seldom, if ever discussed, is that very few dealers are equipped to handle used cars, and I would like to know why.

At least 40% of the dealer's gross sales are used car sales, and yet we find dealers all over the country, equipped to handle new cars, and new car service only. The used car does not seem to enter into their scheme of things at all, only as an afterthought. The used car must get through the place as best it can. In the majority of cases there is no used

car production department whatever. Repairs are made in the new car service shop, and the average service manager's attitude towards the used car is that it is something to patch up any old way when his men have nothing else to do. He seems to think that a \$10.00 cash repair job is of more importance than getting \$500.00 or \$1,000.00 worth of the company's merchandise in shape to be sold and the money in the till where it can be used.

Where there is a separate department for reconditioning used cars, it is more apt than not to consist of one or two "cold chisel mechanics" stuck away in the darkest, dirtiest part of the place. It would be impossible for them to do all of their work right, even if they knew how, and they very seldom do.

Consequently after the used car is sold it is a source of annoyance, coming back for adjustments that should have been made before the car was offered for sale.

It is very important that used cars be right before they are shown to a prospect. With used car prospects, it is generally a case of "close 'em or lose 'em" on the first visit to the showroom.

It is nothing unusual to find used cars in dealer's stocks that have been there from six months to a year. And the reason most often is that they were not in shape to make a good demonstration when the salesmen had chances to show them. In case any of the good brothers whose used car stocks move slow doubt this, I would suggest that they look their stock over, from a purchaser's viewpoint, have their used car salesmen demonstrate the cars to them, get in them and drive them and honestly tell themselves how many of them come up to the standards that they would set if they were buying a car for themselves, or a member of their family. They will be surprised.

It is hard to sell a car that is not "ready to go." Promises to make it run satisfactorily later don't go over very good. First impressions count for a lot in the used car business.

If you have read this far without going to sleep, and if you care to use any or all of it, you are sure welcome. Because I would like to read something in my magazines about how this old used car bugaboo has been licked and I hope to see the day when a man that admits a "Used Car Problem" will be laughed out of the business. Personally I can't see a used car problem with a microscope.

# *A Used-Car Policy That is One of Insurance*

*Martin-Nash of Atlanta Assures  
Used-Car Sales by Insuring  
Used-Car Buyers*

Here is another way of moving reconditioned automobiles that is meeting with success. A feature of this insurance policy plan is the elimination of red tape. The sales prospect doesn't have to remove his coat or vest to get the policy that goes with a car.

President  
"Bob" Martin



MR. SMITH is a prospective used-car buyer. He intends to buy "on income."

"But suppose, Mr. Smith, you should be so unfortunate as to take sick after several months elapse, or are disabled through accident. Will you forfeit your car—will you lose out on your entire investment—will you burden your wife and family with those payments?—or

"Will you buy that used car from the Martin-Nash Motor Co., and let their free insurance policy protect you against any like contingency?"

Such is the argument used by salesmen in the Reconditioned Car Department of the Martin-Nash Motor Co., Nash distributor and dealer in Atlanta, Ga. And such is the argument that for some time has proved tremendously effective in giving Martin-Nash used cars an enviably rapid and consistent turnover.

It seems that President "Bob" Martin, who, incidentally, was the sponsor of the "Certified Used Car" idea in the city of Atlanta, conceived the plan of offering an absolutely free insurance policy, technically termed as "Auto Deferred Payment Policy," to every buyer of a vehicle from his Reconditioned Car Department.

Generally speaking, this policy assumes responsibility for the buyer's obligations in case he is disabled through injury or sickness, or suffers loss of life through accidental means. It is a type of insurance that is highly important, almost indispensable from the standpoint of the man who buys his car "on income," a type of policy whose real significance has not yet been fully appreciated by the buying public—but one that is soon destined to come into its own. A review of the figures on the number of cars repossessed during the past year on account of illness, injury or death would quickly drive home its importance.

And Martin-Nash salesmen are apparently successful in convincing prospects of the value of such a policy, for as a used-car selling weapon, it is proving tremendously effective.

"When you come right down to it," says Mr. Martin

in commenting on the success of his insurance plan, "No time-payment buyer really owns his motor car on delivery—unless, of course, his payments are assured by means of just such a policy as this. We can cite any number of cases where a car has been delivered to a family, then sickness has descended upon the chief provider, and the car has either been forfeited or has proved a millstone around the necks of the rest of the family for many months afterwards. With our plans, the man who buys a car on the deferred payment plan knows he owns the car as soon as it is delivered to him. And the mental satisfaction that goes with it is worth a lot, as any of our insured customers will testify."

One of the oldest and strongest casualty insurance companies in America is the firm with which Mr. Martin has arranged to cover his customers.

This firm issues a policy to every single buyer of a Martin-Nash used car as soon as the initial down-payment is made. No matter what the total price of the car may be—\$20 or \$2,000—the policy goes with it. And no matter how long is the period over which the deferred payments run, the policy offers full protection.

If the buyer becomes sick and is prevented from performing duties in connection with his business or profession, the insurance company meets all payments accumulating after 14 days of illness have elapsed. And it continues to meet them until such time as the purchaser is well, or the payments are completed.

Should the buyer suffer an accident, the same situation prevails, and the injured man is relieved of all responsibility connected with the payments.

And should he suffer a fatal accident—be hurt in an automobile crash, for instance, and die from the results—the insurance company is liable for the sum necessary to cover all the remaining payments had the man lived,



and the car is turned over to the estate of the purchaser, absolutely free of all indebtedness.

A pleasing feature of the policy is the fact that all red tape is eliminated. That most annoying ceremony—the physical examination—bug-a-boo of all casualty insurance salesmen and a factor that might have impaired the success of Martin's plans—is not required. A man need not even remove his coat or vest to get the policy that goes with the car.

### A Used Car Czar

(Continued from page 26)

Salesmen or other employees of the members are not permitted to buy customers' cars for their own account at prices higher than the appraised values. However, members may accept used cars on consignment to be sold for customers but shall not guarantee any price. The customer must be charged at the regular retail rates for any work done on the car and not less than 10 per cent of the selling price.

If a member, without bringing it into his stock or inventory, offers a used car for sale or trade for a customer the member agrees not to finance it or cause it to be financed in amount greater than its appraised value. In cases of such sale the new car purchaser is charged with all repairs or adjustments at regular retail prices, and not less than ten per cent of the sale price of the car. In handling such transactions the member is required to make a complete report to the arbitrator, giving full details. Failure to do so is considered a violation of the agreement.

Each member is required to file with the arbitrator the delivered price of each model of the car he represents, not including any extras or accessories not included in the factory price, and must notify the arbitrator of any changes in prices as they occur. The delivered list price of each car, as filed with the arbitrator, must be maintained where a sale involves a used car, excepting in such unusual cases as the arbitrator may deem it advisable to permit a discount. In each of these cases the member must file with the arbitrator the serial, motor or other identification numbers of the cars on which he desires to allow a discount. The granting of discounts on certain identified new cars in no way affects the trade price offered for the used car to be taken in exchange, the discount to be directly deducted from the list price of the new car. It is pointed out that the purpose for which the bureau was established—fair value for used cars—will in no wise be affected in this manner.

Explanation is made that the arbitrator is empowered to permit these discounts where a dealer is overstocked, anticipates a model change, or for some other good reason is willing to sacrifice his new cars.

There is nothing in the regulations forbidding the granting of so-called "fleet" discounts in such cases as the various factories recommend granting such discounts.

It is provided that no member shall furnish any accessory or extra, except at the established list price, in connection with the sale of a new car where a used car is in any way involved in the sale of the new car. However, in such cases where members sell or advertise new cars as "fully equipped" or "completely equipped" at a certain price which includes accessories or extras not known as "factory equipment," the additional charge for accessories or extras so furnished must approximate but need not exactly equal the total list prices of such accessories or extras if sold separately.

Any member who for reasons peculiar to his own business does not care to offer a fair value for a car offered to him in trade, is not to make any offer or appraisal of the car. This automatically leaves the car open for appraisal by some other member.

The members of the bureau have not adopted any standard appraisal form to be used by the dealers, but each dealer's form has been approved by the executive committee.

It is the duty of each member to mail to the arbitrator each Thursday afternoon a list showing each used car sold by him during the week with the selling price and other data. This information is tabulated and compilation mailed to reach each member by the following Monday to be used by them as a guide in making appraisals. Each member also is obligated to file with the arbitrator all rumors of violations that seem to be well founded and accompany each written complaint with all facts available.

In the short time that the bureau has been in operation—less than three months—there have been 2525 original appraisals. Of this number 17 per cent went to a second dealer, 4 per cent to a third, and less than 2 per cent to a fourth.

### Hazards

(Continued from page 29)

cut-rate artist—the dealer in "just-as-good" imitations—the chain-store menace—the mail-order catalogue and the purchasing agencies—all defiantly lining the fairway with their traps for the manufacturer and jobber. There was never anything made that somebody else could not make in a cheap copy and sell it for less.

There never was any firm so big or powerful that smaller firms could not get together, pool their interests, and go to the consumer with the shibboleth of the economy of club purchases or cooperative buying, which brings us to the sand trap of cooperation versus competition.

There is too much time wasted and energy misspent in worrying about what the other fellow is doing and watching him and sometimes hating him. Usually when you get to know him, you find plenty of reasons for a healthy respect, and he probably will feel the same way towards you.

Many business men have made this interesting discovery by going around in a golf foursome with a competitor. Cooperation—even combination—is the spirit of our times in big business. The purpose of a trade association is to promote cooperation, while helping the members to get their share of the business through trade and legal information, publicity, merchandising data and aid, etc. If you keep your eye on the ball of increased business and shoot straight for the pin of success, the sand traps will not prove to be as numerous or as ominous and threatening as you thought they would be.

The traps are like objects seen at night; they are as big or as small as your knowledge of them and the light you are able to throw on them.

And that's that for old Colonel Bogey!

A NEW sales and merchandising Manual for the tire and vulcanizing trade, has just been published by the Battelle Publishing Co., Los Angeles. It is filled with interesting and practical facts, information and statistics. It deals with better selling.

Twenty-seven chapters are devoted to practically every phase of tire and vulcanizing merchandising.

# Gazing Into the Automotive Future

(Continued from page 27)

accuracy of adjustment by the layman.

The discussion of four-speed transmission brought to light further differences of opinion between those favoring the under-gear and those favoring an over-gear type, as well as some dispute among the engineers as to the desirability or necessity of four-speed transmissions as regular car equipment. S. O. White chief engineer, Warner Gear Co., read a paper in which, favoring the under-gear type, he said "while the car with an over-speed transmission performed much better than a standard car in tests which we have made, nearly everyone who drove it wanted to drive it at top speed practically all of the time and to use the third speed only for acceleration and hill climbing."

## Vibration Reduction the Goal

"The fundamental purposes of this whole program," Mr. White continued, "it must be remembered, is to reduce vibration. The over-speed reduced the engine vibration by permitting the engine to run slower, but it did not decrease vibration or whip of the propeller-shaft, and propeller-shaft vibration can, and usually does, cause almost as much disturbance as engine vibration."

E. S. Marks, chief engineer of Franklin, pointed out that there is a difference of opinion as to whether the best method of securing maximum riding comfort at 50 m.p.h. is to be obtained by addition of another geared speed or by the use of a larger engine, while C. S. Crawford, chief engineer of Stutz, voiced the opinion that before urging the adoption of four-speed gears, the sales department should educate the public to shift gears.

It was obvious from the discussions at the meeting that, whatever the future trend as regards transmission may turn out to be, there are several new four-speed transmissions under development in addition to those already announced, and that car engineers are examining this type of transmission with renewed interest at the present time.

The debate about metal and fabric brakes developed chiefly through the advocacy of metal-to-metal internal expanding brakes in the paper prepared by H. D. Church, chief engineer, White Motor Co., on "Internal Brakes." Alvin M. Yocum of the Multibestos Co. discussed factors affecting normal brake operation chiefly from the service station angle. F. W. Parks, of the Cowdry Brake Testing Organization, talking on "Brake Testing and Adjustment," showed how modern driving conditions make necessary and more difficult proper brake adjustment and described briefly the Cowdry brake tester which provides a simple, accurate and thorough method of providing proper adjustment.

## Causes of Brake Noises

Rivet ends, road grit and drum scoring are largely responsible for brake noises, Mr. Yocum pointed out. Mr. Yocum stated, however, that lubricating brake bands and shoe linkage, redriving rivet heads, eliminating road grit and steel scorings and rust proofing drums are not cures for brake noises. Any part of a brake mechanism that keeps the band or shoe

from taking a normal position in or on the drum when the brake is applied may cause brake noise. When such a condition exists, there is usually a rapid frequency of taking-hold and letting-go of brakes that sets up noises.

From investigation of many brake noises, it seems that the ends of brake bands should travel in a line which is tangent to the drum surface at the contact point, or the band ends will cause noise such as a chair causes when it is pushed back by a person rising from it.

Lack of lubrication of the brake mechanism has generally been found to be the cause of lack of holding ability of brakes investigated at service stations. A rusty linkage may move freely when slack, but as the bearing pressures increase with brake application the rusty bearings absorb much of the power required on the drums. Frequently there is too much oil on the brake linings and not enough on brake linkage bearings.

Investigation shows that grease on the lining will vary the friction co-efficient as much as 350 per cent. When the grease on the lining is more or less cold and pasty, the friction is high and the first few brake applications are apt to be harsh. As the grease warms, friction and retarding ability drop rapidly since a lubricating film is formed between the lining and the drum. This is often called a lining glaze as the presence of half dried grease causing the trouble is often difficult to detect. Close study has shown that this so-called lining glaze is often caused by wheel bearing grease leakage, or grease that is thrown from the front pinion bearing to the brake drums until the linings become saturated.

## Glazed Linings and Moisture

Contacting rivet heads have about the same effect. If a rivet head starts scoring the drum, friction will be increased. If they do not score but only contact, the friction is reduced and linings are said to glaze. Of course there is such a condition as lining glaze, due to charring of the lining saturant. On the other hand, many linings would not glaze if outside elements could be excluded. Moisture between the drum and the lining also has a variable effect. At times just enough moisture gets between the lining and the drum to give them a sucking fit, resulting in a very sensitive brake action that lasts only for a few applications or until the sealing moisture has evaporated, or been squeezed out. Moisture in larger quantities seems to form a film between the lining and the drum so that the lining cannot properly contact until the water is pressed or evaporated out.

Based on a number of tests, good brake performance is possible during wet weather if the brakes are adjusted so that linings are close to the drums. This seems to cut down on the thickness of the water film and protects against the entrance of an excess of water.

Complete brake service, as Mr. Yocum views it is given elsewhere in these pages. By performing these operations most of the brake noises and causes of irregular application of brakes can be eliminated, according to Mr. Yocum.



# 101,520 Establishments Make Up *Automotive Retail Division*

*Merchandising of Products is on a Higher Plane  
Today Than It Has Ever Been Before*

By C. V. Hughes

*Manager Commercial Survey Dept., Chilton Class Journal Co.*

**W**E who earn our living by the automotive industry must often take things so as a matter of course that we fail to realize how gigantic our business looks to other observers and the fact that the Government ranks ours as the largest manufacturing enterprise in its domain. Pride in association with this endeavor is a stimulus of the morale of us all.

The Department of Commerce announcement that in the United States alone during 1926, 3,765,059 cars and 454,383 trucks were built is pretty generally known. So is the Bureau of Public Roads compilation that there were in operation on January 1, 1927, 19,373,112 passenger cars and 2,764,222 trucks,—an imposing total of 22,137,334 motor vehicles.

Readers of MOTOR AGE will be interested to know the wholesale and retail trade structure that is achieving these results. To get a picture, particularly of the retailing division, is to give each of us an idea of the group in which we function and how many there are like us in this big country.

In the wholesale division, according to the Chilton Trade List of March, 1927, there were 3712 establishments in the United States who were doing a wholesale business. Of these:

- 2642 sold mechanical replacement parts items.
- 1240 sold electrical items.
- 1136 sold shop and garage equipment.
- 1340 sold tools.
- 2266 sold accessories, supplies and specialties.

As these figures represent the number of outlets for those particular types of commodities, naturally there is duplication. One house might sell items under two or more classifications, while the full line jobber handles products in every group. The total includes not only general jobbers who are members of the Automotive Equipment Association and other full line general jobbers, but also the specialty distributors who handle two or more commodities. Car, tire and battery wholesalers are not included, nor are agents representing one manufacturer only.

In the retail division, according to the March 1927 Chilton Trade List, there were, without duplication, 101,520 establishments comprised of car and truck dealers, garages, repair shops and supply stores. Examining these in detail, we find that:

- 27,948 dealers sold passenger cars only
- 22,920 dealers sold cars and trucks, the trucks usually being the light delivery commercials turned out by the car builder.
- 1,724 dealers sold trucks only which, for the most part, were those with a complete capacity range from 1 to 5 tons.

52,592 Total

Maintenance was furnished by 85,983 units. Of these:

- 10.9 per cent were the service stations of Ford dealer agencies.
- 42.7 per cent were the service station of all other car and truck dealers combined.
- 46.4 per cent were exclusive repair shops or garages which rendered service.

Accessories, supplies and specialties were sold by 67,753 establishments. Of these:

- 8.3 per cent were supply stores functioning exclusively as such.
- 12.5 per cent were supply departments in the Ford dealer establishments.
- 44.9 per cent were supply departments in the establishments of all other car and truck dealers.
- 34.3 per cent were garages, etc., which sold accessories.

The public garages and the motor vehicle dealer establishments which have garage facilities number 52,086. Here again in order to show types of outlets there must be duplication. For example, a car dealer will not only sell cars but accessories as well, and operate a service station.

The 50,868 dealers who sold cars furnished 60,378 outlets for their manufacturers because, while 41,799 dealers represented one line only, the remainder represented two or more makers. Of all these outlets, 67 per cent were in towns of 10,000 and under population, including the rural districts. The fifteen largest car manufacturing organizations had 53,379 outlets over the entire country.

The estimated retail sales this year for new cars and trucks are placed at \$3,425,000,000, and sales of replacement parts, accessories, supplies and tires at \$2,220,000,000. These figures show what a huge sum the American public is paying for the goods we sell—the problem of the individual dealer being to get a larger share of it by increasing his merchandising efficiency.

After all, what is this great trade organization for? To render service, of course, for as we serve we prosper. However, primarily, for its own sake, it is to sell goods; "to merchandise," as the modern expression goes. Merchandising means intensified thought and planning given to selling, not just filling the order when the buyer has reached the point where he positively wants the article.

Some criticism is always leveled against the humblest type of automotive trade units. But is it not the same with any other field. The successful automotive merchant is one of the most substantial business men in his community, whether he is the operator of a modern

(Turn to page 42, please)

# Dull DRILLS Stump Speedy Service—Keep 'em KEEN

Main Troubles Arise From Incorrect Sharpening—How to Grind the Drill to Make It Most Effective

**P**ROBABLY the most used power tool in the average shop is the twist drill. For this reason it is of great importance to see that the drill is used right and that it is cared for properly.

To begin with it should always be remembered that the twist drill is a cutting tool with a sharpened edge and consequently it should not be roughly thrown in with other tools. A drill rack is worth while as it not only protects the drills but it also enables the user to pick out the drill that he wants without loss of time.

One of the most common causes of trouble with twist drills is rapid wear or burning at the edge. This indicates too much speed for the diameter of the drill used or for working in that particular kind of material.

Chipping of the edge of the drill, assuming that the drill is correctly sharpened, is caused by too much feed or pressure. Aside from excessive speed or too much feed, the main troubles arise from incorrect sharpening.

Whether the sharpening is done by hand or with

Recommended Drill Speeds

Drill Diameter In.	Steel		Cast-Iron		Brass	
	Carbon	High Speed	Carbon	High Speed	Carbon	High Speed
1/16	1833	4278	2139	4991	3667	....
3/16	917	2139	1070	2496	1833	4278
1/4	611	1426	713	1664	1222	2852
5/16	458	1070	535	1248	917	2139
3/8	367	856	428	998	733	1711
7/16	306	713	357	832	611	1426
1/2	262	611	306	714	524	1222
5/8	229	535	263	614	458	1070
3/4	183	428	215	500	367	856
7/8	153	357	178	415	306	713
1	131	306	153	357	262	611
	115	267	134	312	229	535

Where power feed is used it should be set for .004 in. to .007 in. for drills of 1/2 in. diameter or less. For larger drills the feed should be .005 in. to .015 in.

the aid of a twist drill grinding attachment on the shop grinder, the results should be watched and should be as described in the following paragraphs for best results and economy.

## Grinding the Drill

### Length of Cutting Lips.

The length of the cutting lips indicated as "X" and "Y" should be equal. If one lip is longer than the other it will be forced to do extra work. That is, the drill will take the point as a center and the drill will cut oversize. With one lip ever so little longer than the other the drill will cut just twice that amount oversize. In some cases this is serious as when drilling for tap-

ping, but in any case it is undesirable as this means rapid drill wear, slow drilling, and frequent need of regrinding.

**Correct Angle of Lips Vital.** An angle of 59 deg. is considered to be the best angle at which the cutting lips should be ground. If one is ground, say, at 60 deg. and the other at 59 deg. the 60 deg. lip will do all the cutting. This will result in slow drilling, reduced drill

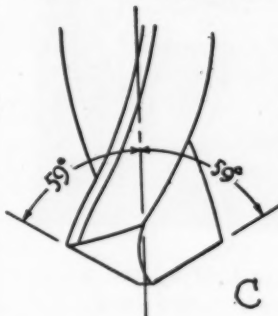
## Important Features in Drill Sharpening



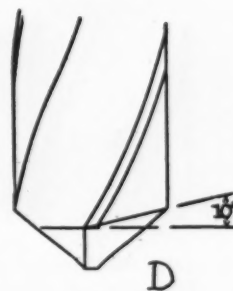
A. Grinding the web, as shown, improves drill performance



B. Lips "X" and "Y" should be of the same length



C. Both lips should be ground at 59 deg. for best results



D. A clearance angle of about 10 deg. at the periphery is necessary for average service



life, waste of power and time, and only half the usual drill service between grinding.

**Proper Clearance Angle.** The clearance angle is the amount that the metal is ground off immediately in back of the cutting edge. This is necessary in order to allow the drill to advance into the work. An angle of about 10 deg. at the periphery of the drill is satisfactory for general conditions. Insufficient clearance will consume excessive power and will tend to overheat the drill while excessive clearance weakens the drill and may cause chipping of the cutting edge.

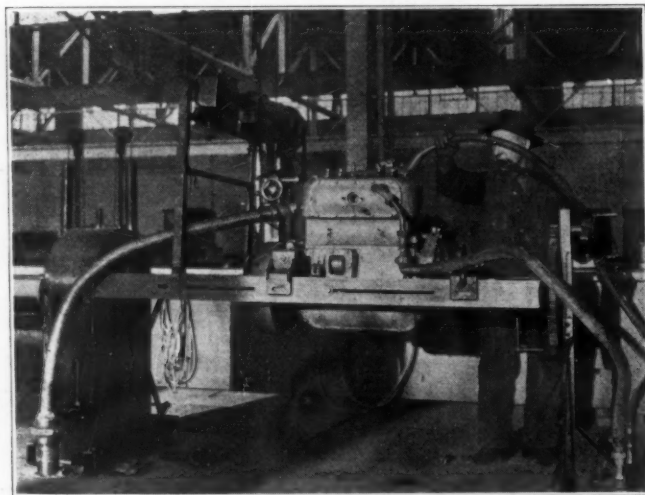
**Thinning the Drill Point.** The very center of the drill does no cutting. As a consequence, on drills of  $\frac{1}{2}$  in. diameter or greater where the web becomes rather heavy it is well to grind the web down slightly. This must be done carefully with a narrow grinding wheel that has a rounded edge. Care must be exercised to keep from damaging the cutting edge and the grinding should be done close to the center as illustrated and should not run far up the flute.

### A Stand That is Available for Assembly and "Running In"

THE White Co. in San Francisco has a battery of special repair racks which are available for assembly as well as for "running in."

After mounting, the engine may be turned to any angle by means of the handle and gearing shown at the right in the accompanying photo. The web edge of the larger gear wheel is bored at intervals and the unit is held in any position by a pin and spring attached to framework and in line with with these holes. After assembly the shaft of the engine is connected by a coupling with a short length of shaft carrying a pulley beyond the framework as shown at the left in the illustration. The wheel is covered, however, for safety of workmen. This pulley is driven by a belt from a countershaft in the basement.

Alongside the belt and set in the floor is a pipe connection leading outside of the building for exhaust gases. At the other end of the rack are the water



pipes. One of these is shown being held by the workman. Water runs through these pipes and keeps the engine cool.

At the left of the engine and supported above it are the gasoline and oil tanks. When the engine has run for a sufficient length of time (by means of the belt extending to the countershaft in the basement) the

shaft is uncoupled and connections made to the exhaust, gasoline, oil and water pipes as shown in the photo and the test completed under normal no-load running conditions.

### Flat Rates Gaining in Favor

THE insistence on the part of car owners to know in advance what a repair job will cost them, has brought thirty-one automobile manufacturers to the point of issuing regular factory flat rate schedules.

Not only is this service of direct benefit to the car owner, but it is a big help to the service station and car dealer, as it puts a price tag on maintenance and reduces the amount of clerical work required. To those service organizations that go a step farther and pay their men on the flat rate basis, it also places a definite cost on the big item of labor.

The factories that have compiled these flat rate schedules control the great majority of automobile production. The few who are not yet on a flat rate basis are those of exceedingly small production or special producers who are turning out custom jobs, where there are so few types alike that the compilation of flat rates is out of the question.

Many dealers have seen the hand-writing on the wall and have gotten in step with the progressive flat rate plan formulated by their factories, with the result that they are giving better service than ever before at a lower cost to the car owners, a better profit to themselves, and with more pay in the mechanic's envelope.

### 101,520 Establishments Make Up Automotive Retail Division

(Continued from page 40)

garage with nothing to sell but storage space by his interest and courtesy making you like to do business with him, or whether he is the largest car dealer in town, or the representative of a high-priced machine being sold to a critical owner.

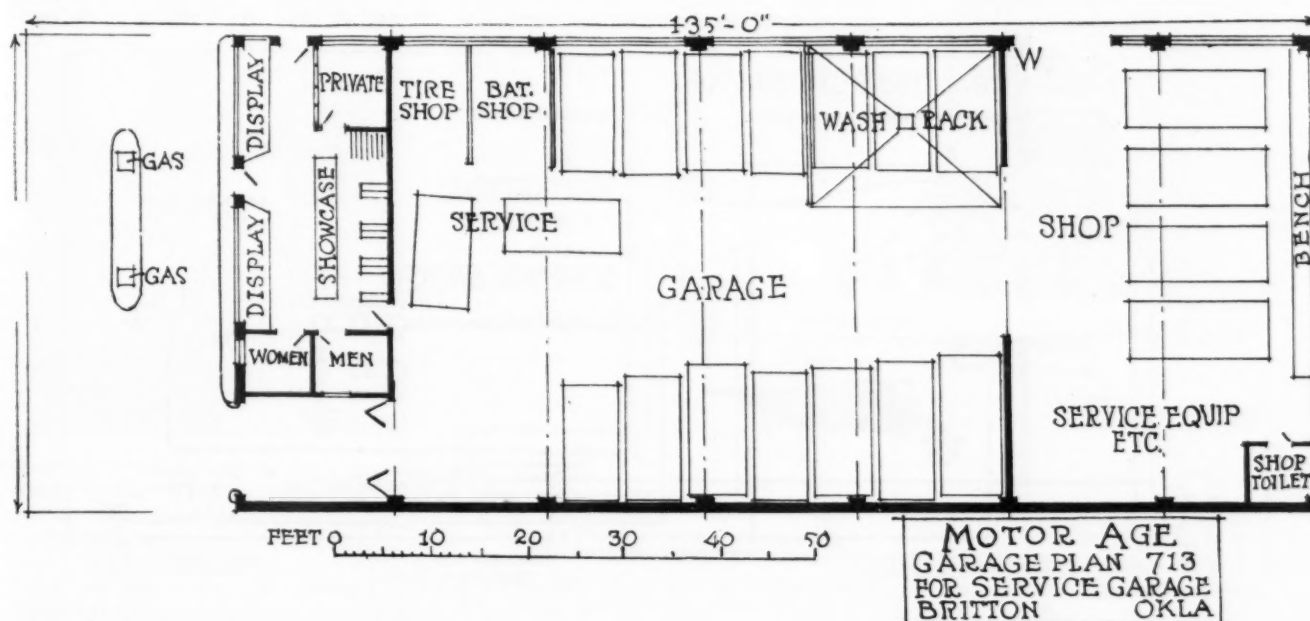
Because so many of the trade units are merchandisers, they have made two blades of grass grow where but one grew before. They are thinking now of two cars for most families. They have upset all the calculation by economists on the motor vehicle saturation point. First this was set at 10,000,000, and then pushed ahead year by year. Now that we have passed the 20,000,000 mark we do not hear so much about saturation because all available owners are sold. The tune has changed to the saturation point of traffic congestion, but we in the industry know that new highways will be built and city streets widened and the registration continue to climb.

Energetic motor vehicle dealers will continue to sell cars and trucks, with a proportionate increase in the sales of accessories, parts, supplies, shop equipment, etc., because motorized transportation is an essential component of American civilization. Some of the most brilliant men in our field are concentrating their attention on the complex problems of profitable merchandising, sincerely trying to help as to what to buy and how to sell it.

There is still room for improvement, of course, but no one will deny that the merchandising of automotive products is on a higher plane today than it has been ever before. We are partners in a business of which we can well be proud.

# A Service Garage With Filling Station and Accessory Sale

By Tom Wilder



Although you specified a front car entrance we would favor using this space for tire and battery shop with the main car entrance where these shops now are

Please send me building plans for a garage building for which I am sending you a small sketch. The departments I would like to have are, drive in two-pump service stations, accessories and parts room, private office, wash rack, repair shop, tire repair, storage room, battery charging. Would like to have drive through south entrance, west and the north.—L. P. Yeaty, Service Garage, Britton, Okla.

THE gas station has been placed across the front of the building rather than on the corner because this arrangement facilitates a front entrance while the other makes the en-

trance kill more space and also uses more space for the filling station.

The tire and battery shop have been placed in front rather than at the rear with the repair shop in order to keep the confusion of giving battery and tire service out of the shop as much as possible.

For this same reason it would be better to place the exit to the side street forward of the shop partition but on the other hand this would waste two car storage spaces and we think the price is too high. An exit to the north or rear alley would also waste space and for that reason has not been considered.

The accessory store arrangement is unusually good, giving a broad window display, an extended showcase with space for standard steel shelving and all without great sacrifice of space. Toilet rooms are placed to bring filling station customers in contact with the accessory display.

The wash rack is made wide enough to hold three cars in storage and wash two cars at once so it can always be in use. It should have a low wall on the front side to prevent splashing other cars.

The roof is supported by trusses which are spaced 16 ft. apart on the centers.

## Chrysler Offers High Compression Cylinder Heads

High compression heads for service replacements on its "60," "70" and "80" models have been placed on the market by the Chrysler Corp. While retaining the previous shape of combustion chamber, they provide the engine with a compression ratio of 6.0 to 1, standard compression ratios on the "60" and "70" being 4.8 and 4.95 to 1. Cost of installation, including valve grinding and new cylinder head gasket is \$27.50 for the model "60" and \$37.50 on the model "70," the latter including a change of distributors.

Due to the increased compression ratio better per-

formance is obtained, this being represented by an increase in maximum speed of from four to five miles per hour, a 30 per cent decrease in accelerating time and a 20 per cent improvement in fuel economy. Of course due to the high compression, it is necessary to use gasoline treated with suitable anti-knock compounds, such as Ethyl gasoline, in order to prevent detonation. It is estimated that the higher cost of such gasoline will be offset by the increased fuel economy, the heads thus furnishing increased performance at no additional running cost.



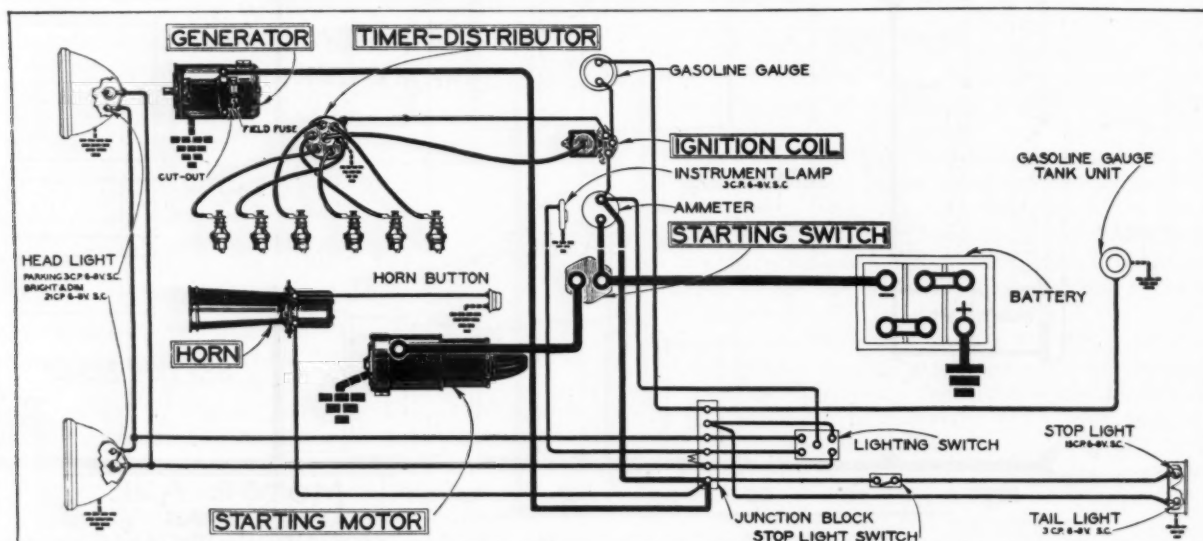
# Electrical Data Covering the New Dodge Senior-Six Line

THE 6-volt North East starting, lighting and ignition equipment which has been adopted as standard for the new 6-cylinder Dodge Brothers car consists of the following types of units:

generator field frame, should close at 6.75 volts and open at 5.75 to 6.00 volts.

The contact gap should be between .020 in. to .025 in. Voltage adjustments are secured by bending the armature

A peep hole is provided below the starting motor on the left side of the engine to aid in determining when the firing point is reached. The engine should be turned so that No. 1 piston is on com-



- 6390 Generator
- 15850 Cutout
- 6400 Starting Motor
- 15380 Starting Switch
- 10836 Ignition Timer-Distributor
- 19232 Ignition Coil
- 6120-A Horn

The generator is driven by the timing chain at 1.168 times engine speed through a laminated type coupling. The direction of rotation is clockwise looking at the drive end.

The brush pressure is 12 to 16 oz. The generator cuts in at about 750 r.p.m. and delivers its maximum output at 1500 r.p.m. The standard output settings at this speed is 15 amperes at 8 volts hot. Below are the output values at 8 volts at various armature speeds. For a higher or lower voltage than this there will be a corresponding increase or decrease in the amperes.

R.P.M.	Amps. Cold	Amps. Hot
800	5	2
1000	14	9.5
1200	18.25	13.25
1400	19.5	14.75
1500	19.0	15.0
1600	18.75	14.75
1800	18	14.25
2000	16.5	13.5
2400	14.25	11.5

The output adjustment stud extends through the commutator-end housing so that all adjustments can be made conveniently from the outside without removing the coverband. A pinion on the inner-end of the adjustment stud engages a rack on the third brush plate. The Type 15850 Cutout, located on the

stop lug and the armature spring bracket. Contact gap adjustments are made by pinching together or spreading the legs of the stationary contact support.

The type 6400 starting motor is mounted on the left side of the engine. The starting motor is of the two-brush type with spring tension of three pounds at the brushes. On test the type 6400 motor delivers a stalled torque of 16 ft.-lb. at 550 amps. and 3.1 volts. Running free it draws 120 amps. at 5.6 volts at 1700 r.p.m. The following specifications may be used when making starting motor tests.

R.P.M.	Amps.	Volts	Torque
Stalled	550	3.1	16
300	425	4	11.9
600	320	4.5	8.25
900	245	4.9	5.75
1200	180	5.25	3.9
1500	140	5.5	2.4

The type 10836 timer-distributor is mounted on top of the engine between cylinders 3 and 4 and is driven by a vertical shaft and coupling from the engine camshaft. It is of the semi-automatic advance type. The manual advance provides 20 deg. of spark advance in addition to the 20 deg. provided by the automatic. The automatic advance starts to operate at 400 r.p.m. and reaches its maximum at about 2200 r.p.m. of engine speed. When fully separated the breaker points should have a gap of .020 in. The firing order of the engine 1-5-3-6-2-4. The ignition is timed with the spark advanced and with No. 1 piston on the firing point.

pression stroke and the flywheel marking "IGN" in line with indicator in peep hole.

In the successful operation of any equipment much rests on the way in which it is oiled.

The generator armature is carried on two large ball bearings that should be lubricated every 2000 miles by applying a few drops of good medium grade engine oil. Oilers for this purpose are at each end of the generator.

The starting motor needs no lubrication as the armature is supported by three oil-less type bearings.

The timer-distributor should be lubricated about every 1000 miles by applying a few drops of good medium grade oil through the oil cup in the automatic advance compartment. In addition the distributor rotor should be lifted off and a few drops of oil applied to the felt oil pad in the hollow breaker-cam shaft.

Just enough grease should be applied to the sides of the breaker-cam to provide a very thin coating. With these exceptions all grease should be kept off the breaker mechanisms.

The type 19232 ignition coil is of iron clad construction with closed magnetic circuit. The coil contains a built-in ignition switch the complete unit being mounted on the instrument board.

The type 6120-A horn is a motor driven type with an offset armature.

Adjustment is easily made with a screw-driver and when once set will not change.

# NEW ITEMS *for* SERVICE SHOPS

## Everready Lubricators

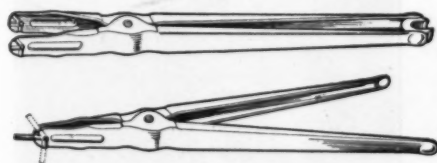
CHARLES P. ROGERS & CO., Jersey City, announces two new high pressure lubricators, the Z-60 for heavy grease and the L-90 for light grease, the latter model being illustrated. A



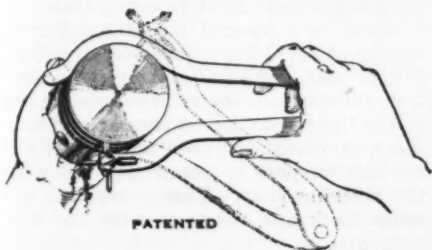
pressure of 5000 lb. is developed at the nozzle and with the nozzle booster, the two models can deliver from 15,000 to 20,000 lb. pressure. The model L-90 is listed at \$60 and the model Z-60 is listed at \$70. Adapter for Zerk and Dot systems furnished at slight extra cost.

## Art Tool's Labor Savers

SOME interesting labor savers for the service station have been developed by the Art Tool Mfg. Co., 332 Lakeside Ave., West Cleveland, Ohio. The piston ring groove carbon remover is quite unique. This tool consists of a pair of arms riveted together, as

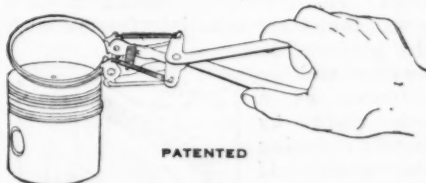


shown in the illustration. One of these arms is curved to guide the tool in the groove of the piston. At the end of the other arm is a cutting tool with four blades on it. These blades are 1/8 in., 3/16 in., 7/32 in., and 1/4 in. By loosening the clamp screw any one of these cutters can be brought into action and the carbon readily cleaned from a piston ring groove of corresponding width, on any piston up to



5 in. in diameter. This tool sells at \$1.25.

For the purpose of installing piston rings without breaking or distorting them, a piston ring tool has been made. This tool will firmly grip any ring and expand it, thus making installation or removal easy. This tool is 8 in. overall, weighs 6 ozs. and sells at \$1.50.



PATENTED

The valve lock tool will be appreciated on many jobs where valves must be removed and where the valve locks are difficult to reach. One end of this tool is designed to take horse-shoe shaped value locks, while the other end handles the pin-shaped lock. This tool sells at 75 cents.

## New Blackhawk Set

OTHERWISE fast greasing and oiling jobs need never again be slowed down by inability to remove a drain plug where the Blackhawk No. 23 G Drain Plug Service Set is on hand.

This is a new set being put on the market by the Blackhawk Mfg. Co. and consists of the following pieces:

- 1—Sliding Handle
- 1—Extension Bar  
Attachment for drain plugs with slots.
- 1—Each of six sizes of Hexagon Sockets.
- 1—Each of seven sizes of Square Sockets.

1—Each of seven sizes of Square Plugs.



The complete set weighs 10 1/4 lbs. and comes in a heavy metal case and sells at \$12.20.

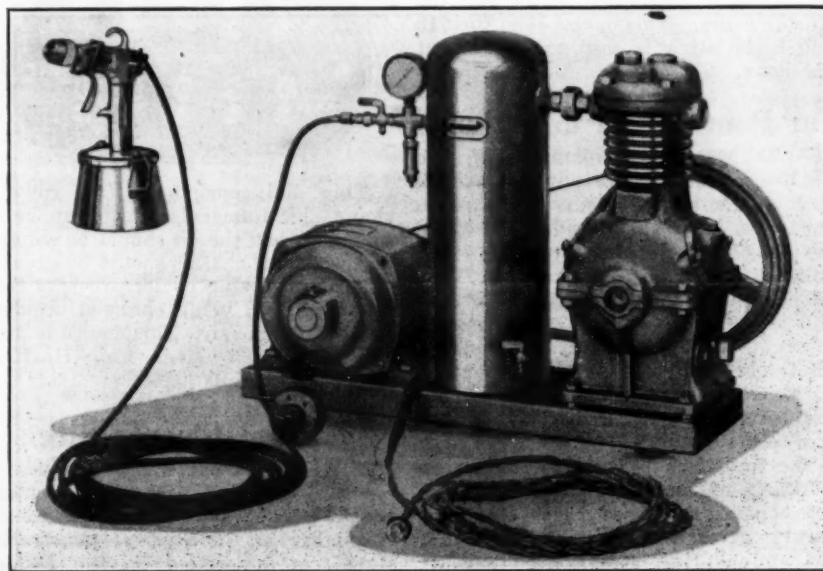
## Handigrip Junior Outfit

AN exceptionally compact and portable lacquer spraying outfit has just been put on the market by the Plummer-Huff Co., of Napoleon, Ohio.

The complete unit is mounted on a base that can be moved about on casters. This base carries the electric motor, compressor, storage tank, with its gage, air filter and pressure regulator.

This equipment is available with the cup type gun at \$175, or in the two gallon reservoir and pressure feed gun dial at \$230.50.

The Plummer-Huff company produces a complete line of paint and lacquer spraying equipment with this as the smallest service station set.





# Some of the LATEST Accessories

## Pass Safety Starter

FOR the purpose of starting an engine when it is accidentally stalled, the Pass Mfg. Co., with sales offices at 58 Washington St., Chicago, have brought out a new automatic starting switch.

This starting switch operates from the suction line of the vacuum tank system, on cars equipped with Bendix drive. In addition to being a great convenience in traffic and a safe-guard against stalled engines on railroad



crossings, this device protects the starting mechanism. It is impossible to cause the starting motor of the car to operate so long as the engine is running, where the Pass Safety Starter is installed. As the Pass Safety Starter is only closed when there is no suction in the intake manifold, it is easy to see what a protection it is for the starter gears. This device sells for \$10 and installation is said to take about one hour.

## Du Pont Polish and Finish

TWO worthy companions of the No. 7 Duco polish put out by the E. I. du Pont de Nemours & Co., Inc., have just been announced. These are the No. 7 nickel polish and No. 7 top finish.

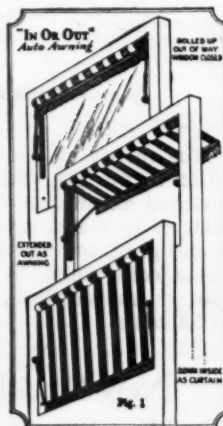
The nickel polish is of the paste type and is packed in 4 oz. cans listing at 50 cents, and 1 lb. cans listing at \$1.50. The nickel polish is particularly rapid in its action, requiring little rubbing and leaving a good polish without injury to the metal.

The top finish is suitable for use on all kinds of imitation leather tops on both open and closed cars. This top coating gives a deep black finish that has an enduring gloss. This product

is put up in pints, quarts and gallons listing at \$1, \$1.75 and \$6.50, respectively.

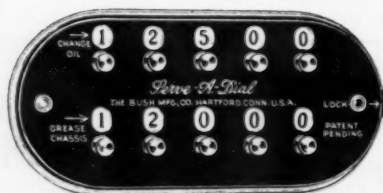
## "In Or Out" Auto Awnings

A PROTECTION which can be used against sun or rain, is known as "In or Out" auto awnings and is made by the Dunn Mfg. Co., of Clarinda, Iowa. These awnings mount in such a way that there is no interference with the glass. The awning can be extended as a side visor by merely dropping the glass. If one wishes to use the awning as a shade, that can be quickly done, as the illustration shows. The design of the awning, together with the automatic tension control prevents flapping. A adjustment to inside positions, however, is not interfered with in any way by this automatic tension control. These awnings are available in sizes to fit window openings from 18 in. to 34½ in., and are supplied in a number of attractive color combinations. The price for each awning, regardless of size, is \$2.50.



## Serve-A-Dial

A NEW accessory of considerable utility is the Serve-A-Dial, which guides the motorist in giving his car correct lubrication.

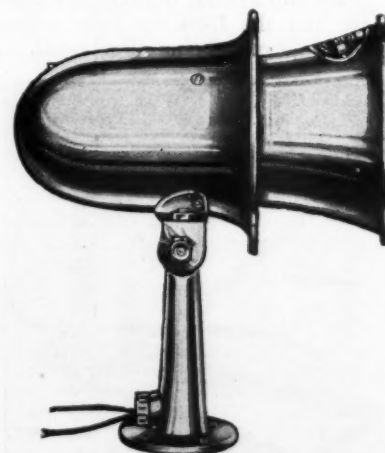


This dial consists of two rows of changeable numerals which can be set to show when the oil should be changed and when the chassis should be greased. A positive locking device prevents these numbers from being changed accidentally or maliciously. This device is made by the Busch Mfg. Co., Hartford, Conn., and retails at \$2.

## Federal Electric Siren

A NEW electric siren for use on fire trucks, ambulances, motor boats, yachts and other installations requiring an unusually penetrating signal, is announced by the Federal

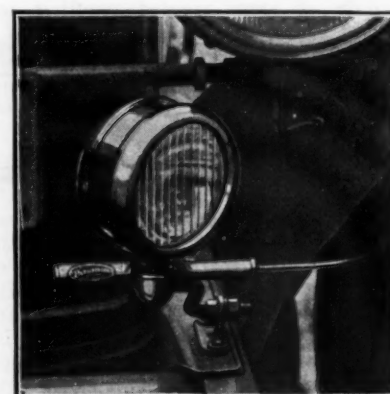
Electric Company of 8700 S. State St., Chicago, Ill. As will be seen in the illustration, this siren is of neat and substantial design. All visible parts,



including the bracket and base, are heavily nickel-plated. The siren is entirely enclosed and totally weather-proof. The motor housing and horn are of spun brass with a base of cast brass. This signal comes with a universal motor which may be had in any voltage from 6 to 250 inclusive. The retail price of this siren is \$40.

## Pathfinder Road Light

A NEW road light that is so connected with the steering gear that the rays of this light follow the road either straight ahead or around corners, is a new product of the Pathfinder Ac-



cessories Corp. of Cleveland, Ohio. The manufacturers claim that the Pathfinder is a legal light in every state.

There is a special model for Fords, selling at \$10. Two other models sell at \$12.50 and \$22.50, depending on size. The illustration shows the appearance of the light installed on the car and also the attachment included with the light for the purpose of connecting up with the steering gear. This connection extends back and connects with the Pitman arm.

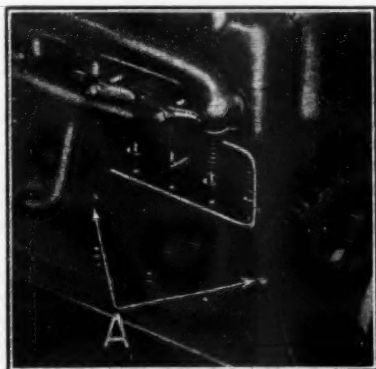
# READERS' CLEARING HOUSE

## Questions and Answers on Dealers' Problems

### Replacing Ford Cam Bearing

Please tell us the correct way to replace the Ford front and center camshaft bearing when the engine is in the chassis.—Muglia Repair Shop, South Plainfield, N. J.

**T**HE first thing to do is to remove radiator, fan and bracket, genera-



tor and bracket, and valve and timing gear covers. Then, raise each valve and lift the push rod with the fingers. There is hole in each push rod in which 8d nails with points filed off can be inserted. The valves can then be dropped and the nail will hold the push rod up and out of contact with the camshaft. Remove the two cap screws shown as "A" in the illustration. Then remove the large timing gear, and the entire camshaft, together with its front and center bearings, can be pulled out of the engine.

The clamp rings holding the two halves of each bearing should be removed and the bearings taken off from the shaft. It is well at this time to "mike" the shaft. The original diameter is .748 in. and if it is found to be worn down more than .0025 in., a new shaft should be installed. It is also well to check the shaft to see that it is not sprung more than .003 at the center bearing, .002 at the rear bearing and .0015 at the front bearing. If the shaft is O. K., the new bearings should be assembled on it. The center bearing is assembled to the shaft with the notch in the bearing pointing toward the rear end of the camshaft. The front bearing is assembled with the rounded end of the bearing toward the front of the shaft. The old style front bearings with the chamfer on one end is always assembled with the chamfered end toward the rear. This is to allow clearance for the head of the No. 1 push rod. Then oil the bearings liberally. Line up the set screw holes so that they point toward the outside of the engine. Insert the shaft into the engine, driving it into position with a

mallet. Be careful in this operation not to turn the shaft until the center bearing has entered its support. If the shaft is turned, the set screw hole in the center bearing will be lost and it will be impossible to line it up with the hole in the block. Drive the shaft in until the front bearing set screw hole lines up with the set screw hole in the block. The set screw hole in the center bearing will then be at the edge of the set screw hole in the cylinder block. It will be necessary to take a tapered drift and work this bearing back into place. Then insert the two camshaft bearing cap or set screws and draw them down tight. Replace the large timing gear so that the word Ford lines up with the zero mark on the small timing gear. Then, replace the other parts that had been removed in order to gain access to the camshaft.

### Racing Car Valve Seats

What width of valve seat is used in racing cars?—W. T. L., Ten Boreck, Newburgh, N. Y.

**T**HIS is answered by Mr. Fred Duesenberg who wires as follows: "Your letter is received and would advise that we use a rather wide valve seat, principally for the reason that when engines are turning over around 6000 r.p.m., the seat pounds down rather quickly if it is too narrow. Also, on the exhaust valve we use a rather wide seat in order to dispel the heat. For this reason, on valves ranging up to 1½ in. in diameter we use a ⅜ in. width of seat on the exhaust valve and a 3/32 in. seat for the intake. If the valve is larger we go correspondingly larger on the seats. We use a 30 deg. angle in all cases. If a 45 deg. angle is used I believe a slightly wider seat would be better."

### Transmission End Play

What steps should be taken to remove the end play from the transmission shaft on a 1920 model 41 Cleveland sedan? At slow speeds the gear shift lever shakes back and forth.—Herb Davis, Herb Davis Garage, Herbst, Ind.

**T**HIS transmission used a plain bronze bushing in the rear of the clutch shaft and this served as a pilot bearing for the front of the transmission shaft. It is possible that this is worn and is causing the trouble. With the transmission cover removed you can probably use a couple of bars and pry the transmission shaft back and forth to check up on the movement at this point. In some of the later model 41 cars Timken tapered roller bearings were used and these were adjusted at either the back or front.

### Heat Causes Flooding of Carburetor

We are having trouble with the carburetor flooding on a Packard car. This car has been run 27,000 miles and is one of the third series Packard Twins. This is one of the last models made without the fuelizer. We have recently installed a needle valve and seat and float balance weights. At times it still floods. Please let me know what the float level should be in this carburetor?—J. P. DeRoo, S. E. Cor. Wade and Barton Sts., Cincinnati, Ohio.

**I**N general it is better to have the carburetor serviced by a Packard dealer or an authorized carburetor service station. The float level should be ⅛ in. below the top of the spray nozzle. In spite of this we have occasionally come across cases that were bothered by flooding when high test gas was used. The float chamber on this carburetor becomes very hot as it is located between the two manifolds. This heating causes expansion of the gasoline with the result that its ability to hold up the float is reduced. The sinking of the float of course keeps the valve opened. If you have radiator shutters on the front of your car we would suggest that they be removed during the warm weather as keeping them on will tend to retain the heat and so cause flooding of the carburetor.

I have also had considerable trouble with the rear axle leaking grease around the pinion shaft. This has been gone over several times and new felt washers installed. However, in a very short time the grease leaks out again, especially in warm weather. This shaft runs quietly when it has about 1/32 to 1/16 of an inch end play. The last time this was adjusted all of the end play was removed and the bearing ran hot and made a lot of noise. I would like to know how to overcome this trouble permanently. I have been told that by using part No. 126660, that is used on the Packard 6 rear axle, and is called an impeller that this grease leak can be overcome. Please let me know what it would cost to install this part and whether or not the installation of such a part is worth while.

If the felt washers are properly installed and the oil in the rear axle is kept at the right level you will not be bothered with it working out around the pinion shaft. Frequently service stations are overly conscientious in their lubricating work and fill the rear axle too full.

There is no regular way of adjusting the pinion bearing on this model car as this bearing is a double roll ball bearing and is locked in an adjusting sleeve. If there is any end play it is due to the bearings being loose in the sleeve or end play in the bearing itself. Such looseness will of course permit the pinion shaft to work back and forth and will very quickly destroy the



## READERS' CLEARING HOUSE

felt washer. We suspect that it is this condition that is causing your trouble. It would not be necessary or worth while to install the impeller that you refer to if the bearings are renewed and new felt installed.

**What Knocks at 35 M.P.H.**

I am expecting a Moon car, 1925 model in my shop soon for overhauling. This car has a knock that appears at a speed of about 35 miles an hour and at the same speed a vibration begins. There are only two of these cars in our territory and we are not very familiar with them so wondered if this trouble is characteristic of this model.—H. E. Owns, Welch, W. Va.

THE trouble that you mention is not particularly characteristic of this model. It sounds to us very much as though the car has loose wrist pins and it may also be by this time that the main bearings and rods are somewhat loose. A loose chain may also be causing this knock. All of this trouble tends to develop excessive vibration. If you can write us in detail just how the knock develops, that is, whether the car is rolling lightly at 35 miles an hour or pulling hard in making 35, or whether it is coasting when the knock develops, that would help. Also, if you could tell us what the knock sounds like. That is, whether it is a heavy thud, a clanging sound or a light metallic tapping noise, it would help us to give you a better answer. In the absence of this information we are sending you by mail a list of 24 possible causes of engine knocks.

**Advises 250 R. P. M. Speed**

ON page 26 of the Feb. 24, 1927, issue of MOTOR AGE you advised the H. B. Hammond Garage to run a shop line shaft at from 400 to 600 r.p.m. If the shaft is to be used in driving metal working machine tools I have found it advisable to run it about half this speed for the reason that most machine tool builders make the counter shaft pulleys very small and this calls for slow belt speed, which in turn calls for very small (3 or 5 in.) pulleys on a 700 r.p.m. line shaft.

A belt running over a 4 in. pulley will stretch twice as fast and last half as long as the same belt running over an 8 in. pulley. For this reason I prefer the slower speed shaft with somewhat larger pulley.—Chas. A. Trask, 615 E. 20th St., Indianapolis, Ind.

**When Ford Started**

Will you please let me know in what year Henry Ford's first automobile was made and operated?—W. J. Sweeney, 5408 Monroe St., Chicago, Ill.

HENRY FORD began experimenting in 1891. The first test run to be made without mishap was in 1893. In 1896 Henry Ford sold his first car and it was not until 1898 that the second one was sold. A year later, 1899, actual production began.

**Special Gearing For Special 6 Studebaker**

I have a Studebaker special, late 1922 touring. This car has a gear ratio of 4.33 to 1. It came equipped with 32 by 4 tires. I put on 34 by 5.77 balloon and find that it cuts my power and pick-up. Would it be possible or advisable to get a drive pinion with one less tooth to compensate for the difference in tire size?—Alva J. Rush, Greehland, Ark.

ORDINARILY the power of the Special Six is found by most owners to be sufficient to take care of the tire change which you have made. However, if the condition of the roads or the hills in your territory make it seem wise to change the gear ratio, you can get a 4.69 to 1 pinion and ring gear from the Studebaker factory or your nearest agency. It is not possible to change just the pinion only. In connection with this it would be well to see the Stewart service station for an adapter which will make your speedometer correct for the change in tire size and different gear ratio.

**Use the Shutters**

I would like to get any information you can give in regard to preventing burning of exhaust valves on an Essex Six 1925 model. They burn regardless of the clearance you give them. I have given them two, four and as much as six, eight, ten and twelve thousandths. Have checked the valve timing and found it to be correct. The valves are up to the standard size seat using Tungsten steel valves. The ignition is perfect. The car is driven 40 miles per hour for a twenty-five mile stretch twice daily.—Fred Wilcke, 70 S. Horton St., Dayton, Ohio.

THERE are just two things that will burn a valve. One is insufficient clearance, but this seems to be eliminated by the experiments you have tried. The other thing is lean adjustment on the carburetor or operating the engine too cold. Essex cars are equipped with shutters and if these are not used and kept closed until the engine temperature comes up you will doubtless experience this condition. The cold operation gives a lean mixture, as the vaporization is not right when the engine is not up to proper operating temperature.

**Oil Pressure Rises and Falls**

We are having oil pump trouble on a 1923 Jewett. All of the bearings are tight and the oil lines appear to be in good shape and all their connections are tight. We get 30 lb. of pressure when the engine is warm but the engine may run for 15 or 20 min. and then lose its pressure for a little while and then start building it up again. Please tell us where we can get parts for this oil pump.—Motor Inn Garage, Yorktown, Ill.

IT is quite likely that the trouble you are having is due to a sheared pin that drives the gear or impeller in this pump. Most of the 1923 Jewett cars had gears in the oil pump, but a few of them used the impeller. Another possibility is that the ball in the by-

pass is sticking and that when the engine is accelerated and a large amount of oil pumped the ball does not return to its seat, but remains open and as a consequence the pressure drops when the engine slows down. It would be worth your while to check into both of these possibilities. The name and address of the companies that can supply you with parts for this pump will be supplied by separate letter.

**Weak Spring Lets Clutch Slip**

I installed new clutch plates in a 1925 model Oakland using Oakland material. The clutch spring looked good so I put it back in. Now the clutch holds in low and in second, but in taking a hill on high it will only hold part way and then when you give the car a little extra gas the clutch lets go. If I shift into second I can go up the hill easily. The new clutch plates have been used about 25 miles. Is there any preparation that I can put on these plates to make them hold, or can you give me any other suggestions for making this clutch work as it should?—Mel Yeager, 707 Spring St., Coffeyville, Kan.

WHEN overhauling the clutch you should have put in a new spring. In most cases the spring is weak and should be replaced when the plates are renewed. Do not put any preparation on these plates as that will not work out satisfactorily. The reason that the car will go up a hill in low gear is that the engine is not required to transmit as much power through the clutch when the car is in low as when it is in high. The reason for this is that the reduction that gives you the necessary torque for taking the car over the hill is obtained in the transmission just back of the clutch. This relieves your clutch of the extreme load that would otherwise be put on it.

**Essex Speeds Compared**

Kindly advise me the comparative r.p.m. of the Essex Super-six and on the last year model.—Iowa Service Station.

IN the Jan. 6 issue of MOTOR AGE was a description of the Essex car in which it was stated that the new Essex engine, known as the Super-Six, developed its maximum power at 4000 r.p.m. as compared to the old engine which peaked at 3600 r.p.m. The actual speed developed is somewhat in excess of that just stated.

**Which is Poor and Which is Rich?**

I would like to know which cylinders of the 1926 Hudson receive a rich mixture and which receive a lean mixture. From the manifold design I would judge that there would be a difference in the mixture delivered to the different cylinders.—Northern Reader.

IT has not been our experience that there is any appreciable difference in the quality of the mixture delivered to the different cylinders. In fact on investigating the kind of carbon in

## READERS' CLEARING HOUSE

some of these cars we have found that there was practically no difference between one cylinder and another. If you are having difficulty with some particular car and find that one cylinder runs wet, whereas another burns a dry reddish brown, we would suggest that you look to the compression and to the ignition of the cylinders that are running wet, for we feel that if you have good compression and ignition in all cylinders that you will have perfectly uniform results.

### Use Conventional Timing

Please forward by return mail the correct valve and ignition timing on a 1923 H. C. S. special 6 with Mid-West engine. Let me know if there are any marks on crankshaft or camshaft gears or chain that would assist in setting the valves. I have examined all kinds of automobile books and charts on valve and ignition timing, but have not found any information on this particular car.—Fred W. Keene, 1013 Oak St., Duquesne, Pa.

THE data we have available does not show the valve timing on this particular model, but on the other model the closing of the exhaust valve and the opening of the intake valve are practically at the top dead center position. We feel sure that this engine was conventional and that you will not go wrong if you time the valves practically at the top dead center position. If you get the timing one tooth wrong in either direction it will be enough difference so that you can readily detect it.

### Where Do Junk Bearings Go?

Can you advise us what is the final disposition of bearings? We know that they are sold for scrap, but we would like to know what is done with them after that.—Jacques Wolf & Co., Passaic, N. J.

BALL and roller bearings are frequently reground and oversize balls or rollers installed. We judge however, that you are interested in the salvage of the babbitt and bronze type of replaceable bearing. These frequently are sold to the bearing companies as scrap. These companies separate the babbitt from the bronze and salvage each kind of metal and after being certain that it is suitable for use, remelt it and use it again in bearings. When properly done by reliable organizations this procedure is perfectly practical.

### Take Out Three Screws

How is the Bendix cover housing removed on an Oldsmobile 6, model 30-C?—G. J. Blacett, 127 Russell Ave., Susanville, Calif.

THE Bendix has no cover in the ordinary sense. To work on the Bendix drive mechanism it is necessary to remove three cap screws which hold the starter in place. The whole starter assembly can then be taken out and any necessary work can be done on the drive mechanism.

### Ways of Setting Valves

We have had an argument in our shop as to which is the better way to set valves. Some of the boys claim that valves should be set according to piston travel and others say that they should be set according to clearance between the valve stem and the push rod or rocker arm as the case may be.—Frank Baska, Mohall, N. D.

THE setting of valves by clearance method is the principle used by practically all manufacturers. However, this refers to the setting of valves after having been ground. Valves are timed by piston position which is frequently read in degrees on the flywheel. In order to compensate for the wear on the camshaft and push rods some manufacturers, Ford in particular, advocate setting valves according to piston travel, but as you probably have found, that frequently results in comparatively noisy operation.

### Timing Whippet Four

Please give me the timing marks for installing timing chain on an Overland four-cylinder Whippet.—E. O. Bender, Richmond, Tex.

WE have not yet received the Overland Four service sheet and the factory branch of the Overland company here in Chicago has not yet had to change the timing chain on the four-cylinder Whippet and cannot give us the timing markings. However, their superintendent suggests that in changing the chain you bring No. 1 piston to top dead center of the compression stroke and turn the camshaft so that No. 4 exhaust valve is closed and put the chain on with the two shafts in position just mentioned.

### Overland Valve Timing

What is the proper valve setting on a 91 Overland? This is set according to the gear marks, but it looks to me as though it was too late, as the exhaust does not close until the piston has gone down about  $\frac{1}{4}$  of an inch when the intake opens and remains open until the piston has come up about an eighth of its travel.—E. C. Root, St. Anthony, Idaho.

THE exhaust is supposed to close 10 deg. past top dead center and the intake is supposed to open 12 deg. past top dead center. This means that the piston should have come up to the top position and should have gone down a very slight distance, probably from 1/64 to 1/32 in. There must be something wrong with the timing marks or the method of using them as the timing of this engine is conventional.

### Deafness Bars Driver From Races

I would like to find out if a person who is in good physical condition except for being deaf can become a race driver on dirt tracks. I am 19 years old, understand automobiles and am anxious to get into the racing game, but I am deaf. Why should that bar me from entrance?—William Hershall Keesee, General Delivery, El Cajon, Cal.

IN order to qualify as a race driver for any kind of competition one must pass a physical examination conducted by three doctors who are appointed by the American Automobile Association. Any physical imperfection, such as deafness, would be a decided disadvantage to a driver and an injustice to others on the track as he might actually endanger their lives by not being able to hear.

### Should Carry Load Easily

The picture show here has a Delco light plant, a 750-watt machine, which is supposed to carry a load of 650 watts. When the load is thrown on, however, the machine will slow down until the lights are just red. This is a 32-volt outfit. The valves have been ground and the points filed and set and the piston and rings seem to be in good shape. Can you tell how to correct this condition?—L. B. Hungerford, Spearville, Kan.

THIS lighting plant should be capable of carrying 700 or 900 watts if necessary. The only possible explanation is that the engine is not in good condition. As in an automobile engine, the essential features are good compression, a good spark properly timed, and good carburetion. If you do not readily locate the trouble it might be advisable to get in touch with the nearest authorized Delco light service station.

### Generator Charging Voltage

With all connections in the charging circuit of a third brush regulated generator perfect, what should the voltage be at the time the cutout closes? Also what should the voltage be when the generator is developing its maximum output?—A Reader.

THE voltage of the generator when the cutout closes should be above that of the battery voltage. The exact amount does not make a great deal of difference. Usually a cutout is set to close at about 8 volts which insures that there will be charging current as soon as the points close. If the voltage should be lower than that of the battery when the points close there would be a slight discharge current which would tend to make the points open again so that we would get a fluttering action of the cutout which would burn the contacts. The voltage of the generator when it is charging is equal to the battery voltage, plus the drop in voltage which takes place in the wiring between generator and battery.

### Piston Removal Easy

How do you get the pistons out of the Overland 93-6?—Haight's Garage, Ottawa, Kansas.

THERE is no particular trick in removing the pistons on the Overland 93 six cylinder car. The head should be taken off and then drop the oil pan. Remove the cotters, take off the connecting rod nut, drop the cap and push the piston and rod assembly right up through the cylinder bore.



## READERS' CLEARING HOUSE

## Answers to Electrical Questions

**Lights Flare When Generator Runs**

I am having trouble with two 1925 model Fords. Ever since they were new these cars have had trouble with the headlights flaring up when the generator is charging. These cars have the regular Ford starting and lighting system so I don't see just why this should happen. I know that was common on the old magneto type Ford, but thought these should not do that. We have tried new batteries, different generator, installed all new wire and also tried special wiring. By that we mean we ran a wire from the generator directly to the battery and in wiring up our lights we tried running a wire straight from the battery to the lights without going through the terminal board, the switch or the ammeter. In fact we have tried replacing everything except the headlights' sockets themselves. What do you suppose can be causing this trouble?—E. O. Bender, Box 263, Richmond, Tex.

**Y**OU may expect your headlights to get somewhat brighter when the generator is charging. We conclude from your remarks that there is no bad connection of any kind in the circuit. You will appreciate that if the current from the generator has some trouble in getting to the battery, that the tendency would be for the current to flow to the lights instead. Actually what happens is this. If the charging current meets some resistance such as a corroded or loose terminal or a wire that is too small for the amount of current to be carried, the voltage in the generator builds up. Then with this higher voltage the current flows through to the battery, but because of the resistance in the line the lights receive an excess of current.

You have probably noticed that the bulbs that you are using are marked 6-8 volts. That means that they are suitable for use on a circuit that varies between those points. Naturally the amount of current that flows through will vary as the voltage varies. That is, if the circuit has only 6 volts on it as when the car is standing idle the bulbs will receive only  $\frac{3}{4}$  the amount of current that they would receive when approximately 8 volts is available. A fully charged battery that has current flowing to it will have a voltage a little higher than  $7\frac{1}{2}$  volts. Allowing for a little drop in the line from the generator, you will see that the voltage at the headlights may be as high as 8. If you know that all connections are in good condition, that all wiring is of standard size, that there are no bad contacts inside your ammeter, and if you are not burning out headlights you will probably do well to leave these cars as they are. We know that you will not be able to *entirely* overcome the variation in brightness of your lights.

Batteries are sometimes the cause of

lights flaring up. If the battery is in bad condition, having sulphated plates or bad insulation or if the solution is low, it may cause the trouble that you are having. Also a high generator output will make lights burn too bright. We would suggest that you cut the output of the generator on the two cars that you are servicing down to 10 amperes or less.

**Changing Westinghouse Generator Cutout**

I have a Hupmobile using a Westinghouse No. 760 generator. The cutout in this generator has burned out and I would like to know if it would be possible to install a regular Ford or Remy cutout on the outside of this generator.—M. Salazar, Santa Fe, New Mexico.

**Y**OU can install any regular six-volt cutout on this generator in the following way: Remove the commutator cover band and cut the lead that connects one of the main brushes to the regular Westinghouse cutout. Splice a length of wire on the lead from the brush. Connect this wire to the terminal marked "G" or "Gen" of the cutout that you are installing. Connect the "B" or "BAT" terminal of your new cutout to the frame of the cutout and then see that the cutout is well grounded.

**Twisted Wiring Gives False Clue**

We have a model ZR 4 Bosch dual two spark type magneto and coil on a 4 cylinder T head engine using 2 sets of plugs. We cannot get fire through 2 and 3 plugs on one side and 1 and 2 on the other side. We have tried new wire, new plugs, points and changed all adjustments. The distributor appears to be O.K. Please give us what help you can on this?—Auto Repair Service, Arcola, Ill.

**W**E are of the belief that your wires are switched and that one side of your magneto is dead. We would suggest taking the distributor block off of your magneto and arranging a grounding wire within about  $\frac{1}{16}$  of an inch of the slip ring. With the plugs out of the engine spin the engine over and check to see that you are getting a spark on the slip ring. There are two high tension brush holders used on this magneto and the ground wire test should be made in each of these brush holder positions. If you get no spark on one of these tests it is an indication that the slip ring or high tension winding is grounded. The thing to do then is to replace the faulty part. Should you get a spark when making this test you may be sure that the brush holder or distributor block is grounded. It is certain that one side of this system is dead and that the wiring is crossed.

**Wants Double Ignition on Essex**

What can be done in the way of double ignition on an Essex Six? I want to fix up a special job. I can get the plugs located all right but to get a distributor to do the rest of the job is what's puzzling me. I understand that the Stutz uses a single distributor to furnish two sparks per cylinder. Could one of the older 12 cylinder distributors, such as used on Kissel or Packard, be altered at the base and used for this purpose?—Stutzman Motor Co., Carlock, Ill.

**I**T is neither practical nor necessary to put double ignition on the Essex car. The principal advantage of double ignition is found where a rather large combustion chamber is used. Here, to ignite the spark in two separate places simultaneously hastens combustion and so increases power at high speed. However, if you have solved the plug location part of the job and are determined to put on double ignition, we would suggest that you arrange to add a six-cylinder magneto with chain drive. That probably would be the most satisfactory and most easily installed extra ignition system. With regard to using a 12-cylinder distributor, alteration would have to be made to the distributor cap, distributor arm and, possibly, to the cam as well as to the base. Also, a special coil would have to be used. On the Stutz car both ends of the high tension winding of the ignition coil are brought out to insulated terminals. (The customary circuit, as you probably know, has one side of the secondary grounded.) From these two terminals the high tension current is taken to two distributing terminals on the distributor cap. Here it is carried to the rotor and sent out to the plugs. You will see that in reality the plugs of any one cylinder are in series with each other. To construct such a distributor for one single job would be too expensive to consider.

**Why No Safety Gap Is Used**

Is there any safety spark gap on the Buick model 24-6-41?—Joseph Jankoviak, 820 Avenue D, Rochester, N. Y.

**T**HERE is no safety spark gap on the car that you refer to. Safety spark gaps were used principally on magnetos, where space was limited and consequently the amount of insulation that could be used was also limited. This made it necessary to protect the winding against an overload which would be imposed if a wire were disconnected from the spark plug so that the spark could not jump at the plug. On the battery ignition systems however, there is ample room for insulation in the coils and consequently a safety spark gap is hardly needed.

# Legal Queries on Automotive Topics

Answers by Wellington Gustin

## Closing an Instalment Sale Mortgage

A sells a car to B on the instalment plan giving mortgage to secure payment. B fails to make payment on second instalment. Does that mortgage have to be closed at once on default of payment? To close the mortgage is it necessary to take possession and move the property? In case the mortgage is closed does B retain an equity in the car?—John A. Wakefield, Cowden, Ill.

THE chattel mortgage is a lien given which may be defeated by performance of the conditions agreed upon and stated in the instrument. Now when the conditions are not met the parties must resort to the contract to see what they had agreed to do. So if you will look to your mortgage much of your difficulties will be solved, if it is a mortgage drawn up to meet modern business demands. These new mortgages invariably contain a power of sale of the property on failure of payment of any instalment due. But that

does not mean that the mortgagee must proceed to exercise his rights of sale or foreclosure at once. Still the mortgagee cannot make other agreements to extend payments and still reserve his rights to foreclose at any time. If one permits the purchaser to default in one or more payments, then later accepts payments, he may be held to have waived his right to foreclose or sell under the former defaults. But any subsequent default would renew his rights of foreclosure or sale. This applies where payments are made without any statements amounting to agreements being made.

The statute provides that a chattel mortgage may carry a provision for the sheriff to take possession and sell the property. Also that the mortgagee may make sale of the property. In each case the statute must be followed strictly.

It may not be necessary to move the property if sale can be made where it stands, but possession must be taken to foreclose, for possession and delivery

must be made of property when it is sold, either under a power of sale given in the chattel mortgage, or by a strict foreclosure proceeding.

Where a mortgage is foreclosed, the mortgagor—who, by the way, under the widespread credit selling on the instalment plan or otherwise is the purchaser of the property mortgaged—retains an equity in the mortgaged property until it is foreclosed and sold, or sold under the power given the sheriff or mortgagee in the instrument of mortgage. However, this equity is the right to the balance left, after proper legal sale is made and the mortgage debt and costs of sale or foreclosure are extinguished. Hence one's equity in a mortgaged property may be valueless and he is commonly said to have no equity. For this reason it is necessary for the mortgagor or purchaser to see that mortgaged property is sold to the highest bidder rather than at private sale, and so most states require such sales be at public sale after proper public notice.

## Fraudulent Sales and the Rule of Caveat Emptor

IN the sale of automobiles it may be stated here that fraud strikes at the heart of the contract. Authorities say that a fraudulent contract is absolutely void so that any action taken under it is of no avail. However, the defrauded party may elect to retain whatever advantages obtained by the transaction and sue for damages resulting from the fraud.

To maintain his right to recover for the fraud, the purchaser must show: That false representation of material facts were made to him which facts were believed and relied upon by the purchaser, that his reliance on them was an act of ordinary prudence, that they influenced the purchase and resulted in damage to the purchaser.

If he cannot prove each and every element the buyer will lose his case.

The rule is pretty well established that where the parties, buyer and seller, deal fairly or at arm's length, the rule of caveat emptor (let the buyer beware) applies, "but when fair dealing is departed from by the seller making false statements of fact as of his own knowledge, the falsity of which is not palpable to the purchaser, the purchaser has the undoubted right to rely implicitly upon such statements and the principle has no application, and in event the purchaser is entrapped thereby and afterwards calls upon the vendor in a court of justice to make compensation for his deceit, the law will not

permit him to escape by urging the folly of his dupe nor by admitting that he, the seller, was a knave and a scoundrel and averring the defrauded party was negligent and careless in thus believing and trusting him," so said the court in *Morbrose Investment Co. vs. Flick*, (174 S. W. 189).

### The Rule of Caveat Emptor

Where a purchaser had an opportunity of inspecting the car before its purchase the rule of caveat emptor imposes on him the duty of making a reasonable examination and as to those defects which would have been discoverable to one in his situation who observed reasonable care he cannot complain of the false representations of soundness. And whereby indifference to his own interests or neglect to his own interest a purchaser permits himself to be overreached, the law affords him no redress because his own conduct is blameworthy. If he has the opportunity he must investigate and if the automobile is before him and if its defects be apparent, he may not rely on the statement of the seller that the car is sound but must look for himself. He must read the sales contract before executing it if he is able to read and may not rely upon what the seller tells him the contract contains. So that where the purchaser fails to make reasonable use of his opportunity to examine and discover leaves him without a remedy against the seller no matter what the

latter's conduct may have been.

However the rule caveat emptor does not apply to hidden defects which are not open to discovery by a purchaser who exercises reasonable care in the examination and testing of the car. As to such defects he is entitled to rely upon the representations of soundness of the seller.

Where a purchaser desires to rescind his contract for fraud he must proceed at the earliest practicable time after discovery of the fraud. If the buyer of a car retains it and continues to use it after discovering the fraud that induced its purchase, he waives his right to rescind the contract of sale. But the mere fact that a buyer accepts an automobile purchased after discovery of fraud does not prevent his recovering damages if it proves to be other than as represented.

But the purchaser of a car is entitled to a reasonable time in which to learn of the truth or falsity of the representations of the seller, and when he returns the car to the seller for the purpose of rescinding the sale, if the seller makes no objections that the car was not returned sooner, he waives such objection.

It has been held that if a buyer has been induced to purchase a car by false material representations it is immaterial whether the seller knew his representation and statements were false or was ignorant of their falsity.





## Prices and Weights of Current Passenger Car Models

SHIP WT.	PASS.	BODY STYLE	PRICE	SHIP WT.	PASS.	BODY STYLE	PRICE	SHIP WT.	PASS.	BODY STYLE	PRICE	SHIP WT.	PASS.	BODY STYLE	PRICE







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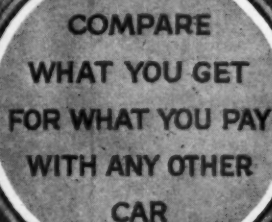


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 Honed Cylinders  
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 Silent Timing Chain  
 Full Automatic Spark Control  
 Thermostatic Charging Control  
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## No jumping jack jerks with Weed Levelizers

People want the best riding car they can get for the money. Most cars ride with "jumping jack jerks" over certain types of roads, and unless rebounds are checked properly, even higher priced cars sometimes bounce around uncomfortably.

WEED Levelizers automatically check rebounds and jerks that are caused by short, choppy bumps in the road. When bad holes or bumps are hit, Levelizers hold the car-springs from throwing the car upwards with serious rebound.

On good roads where springs should have comparatively free play, the floating friction drum in the WEED Levelizer turns freely with practically no friction.

### Levelizers are easy to install

Any garage mechanic can attach WEED Levelizers. Most cars have a hole provided in the frame for shock absorbers, and Levelizers bolt through this hole. The mounting bolt can be inserted and tightened from the outside, making it unnecessary to remove splash pans or aprons.

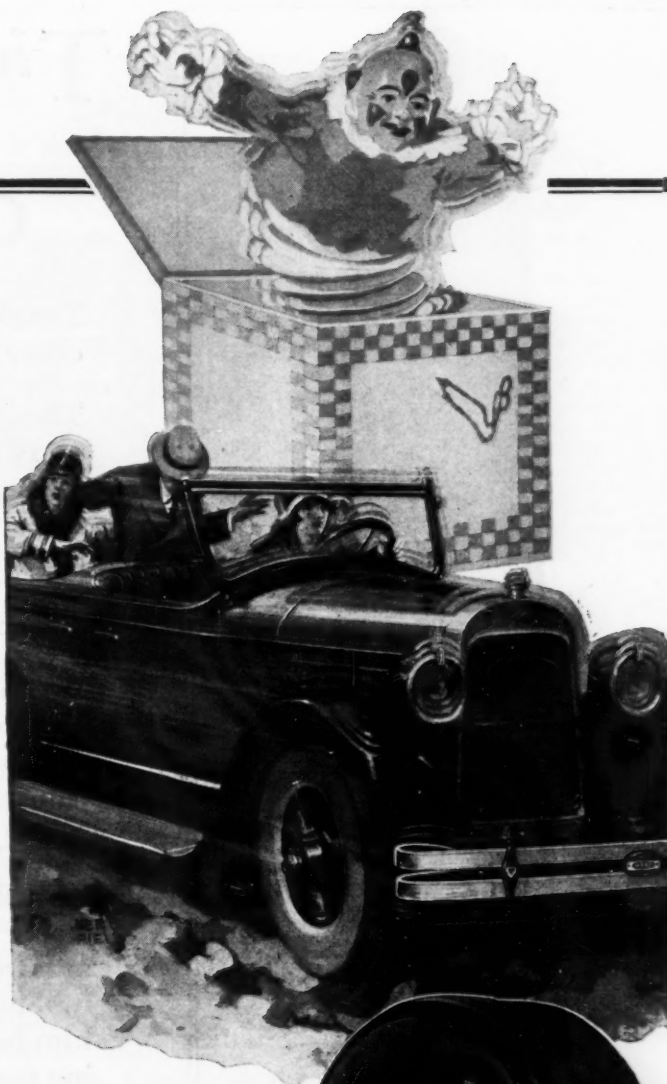
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Makers of WEED Chains and WEED Bumpers



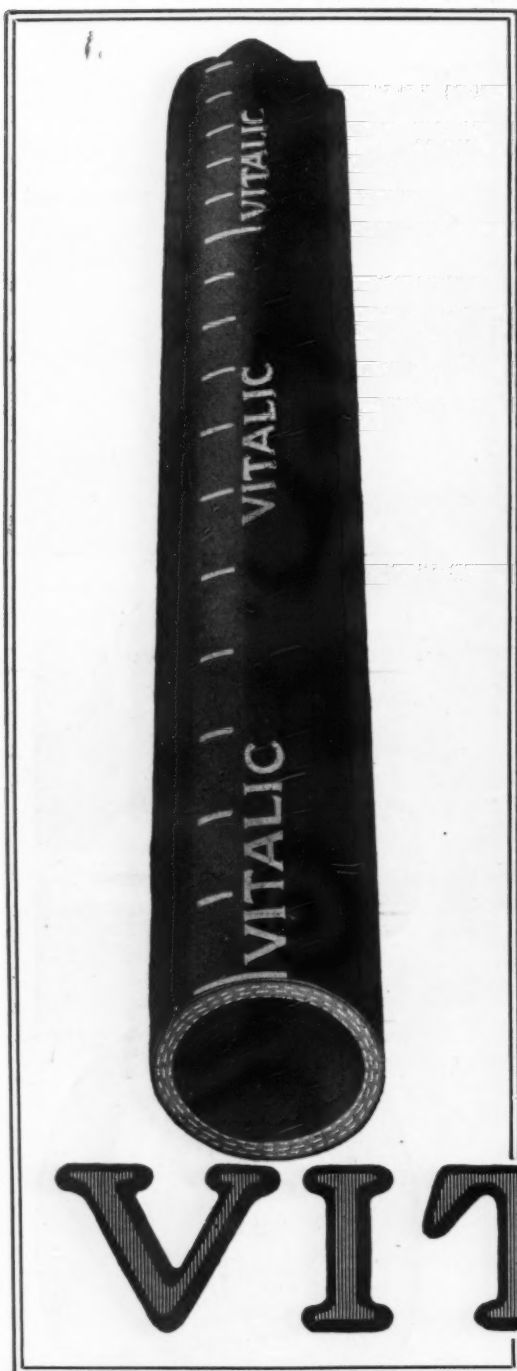
WEED Levelizers are equipped with Tru-Lay Brand Preformed Wire Cables—the strongest wire cables made.



# WEED Levelizers

"They level the road as you go"





## The customer ought to know how CAREFULLY you buy

People come to you for service rather than to the other fellow, because they have confidence in you.

Thus public confidence is easily one of your primary assets. When you increase this confidence, when you build in your customers' minds a deeper respect for your judgment, you are increasing your capitalization as well as your turn-over.

And here is one good way to do it:

When you sell a man a piece of equipment, or a replacement part, tell him why you are selling him that particular make—why you selected that unit from the multitude you are asked to buy.

With Vitalic radiator hose, for instance, tell him how this hose is impervious to oil, how boiling water fails to wilt it, how radiator compounds and anti-freeze mixtures (except kerosene) can not harm it. Show him the foot and inch markings, and tell him how that protects him from waste—from paying for more hose than he needs.

# VITALIC

REG. U. S. PAT. OFFICE

## RADIATOR HOSE



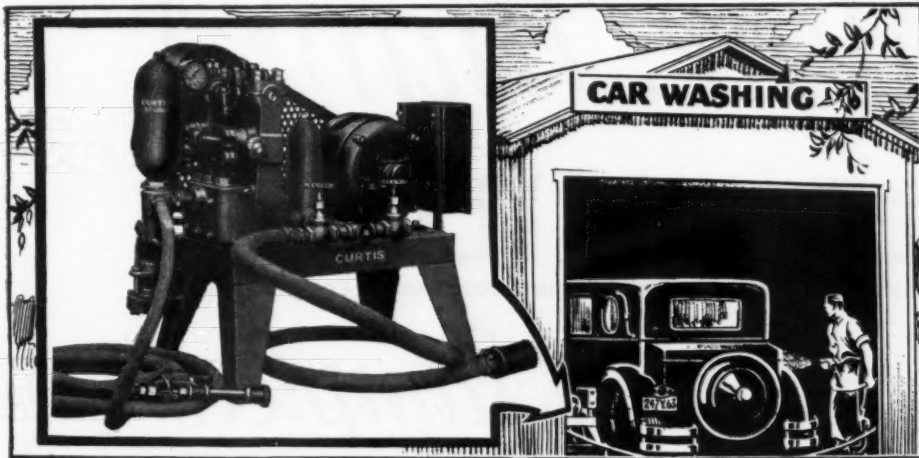
"Tougher than  
Elephant Hide"

For 24 years the Continental Rubber Works has been serenely busy and prosperous in making and selling Vitalic products, while the rubber industry at large has been rocked with fiscal convulsions. This, we think, speaks volumes for both Vitalic products and Vitalic selling methods.

### Continental Rubber Works, Erie, Pa.

CHAS. C. KERNER, 152 Chambers Street, New York, Exclusive Foreign Representative

## CURTIS COMPRESSORS, HOISTS, CRANES, CAR WASH SYSTEMS, PORTABLE COMPRESSOR UNITS



## Low Investment Car Washing Equipment

The present day garage or service station must have some type of mechanical washing outfit in order to meet competition. This is true even in the smaller stations where the volume and type of business may not justify the installation of the well-known Curtis Air Mist System with its many complete cleaning attachments.

To meet the demand for mechanical washing equipment at a moderate price, we have designed the Curtis Hydraulic Car Washer.

This washer delivers a soft, harmless spray for use on the body, a strong cutting stream for chassis cleaning or any degree of force between these two.

The machine occupies less than six square feet of floor space and requires no special

foundation. It comes assembled ready for you to connect the electric power. It may be operated from any water line or is equally effective using clear water (hot or cold), soapy water or a cleaning solution from a barrel or tank.

In the manufacture of this car washing equipment, we follow the same high standards that have been typical of the Curtis organization throughout its 73 years of experience. For 10 of those years our engineers have been studying car cleaning problems.

Why not use the coupon to obtain further information about this inexpensive but profit-making outfit?

### To the Users of Curtis Air Mist Systems

The Curtis Hydraulic Car Washer makes an excellent auxiliary for the Air-Mist Outfit. Air Mist does the major portion of your washing—it gives you air pressure for the various Air-Mist attachments. The Curtis Hydraulic Washer will give you that added washing capacity you may need with a very small additional investment.

The Hydraulic Washer is self-contained and may be placed wherever you need it without construction of a special foundation.

### Three Sizes

The Curtis Hydraulic Washer is made in three sizes—one nozzle, one H. P.; two nozzle, 2 H. P.; two nozzle oversize, 3 H. P. Even the oversize unit uses only six gallons of water per minute per nozzle. An automatic pressure control protects the pump and hose against undue strain. Alemite lubrication system is used.

### MAIL COUPON TODAY

CURTIS Pneumatic Machinery Co.  
1957 Kienlen Ave., St. Louis, Mo.  
518-U Hudson Terminal, New York City.  
Please send me full information about Curtis Hydraulic Car Washer.

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_  
State \_\_\_\_\_



# CURTIS HYDRAULIC *Car Washer*

CURTIS PNEUMATIC MACHINERY COMPANY, ST. LOUIS, U.S.A.



# More than **HALF-A-MILLION** Plasters were sampled

THE sampling plan of a Las-Stik Casing Plaster with each can of Las-Stik Tube Patch is a thing of the past. The campaign is over.

But during the three months of the plan almost 700,000 plasters were sampled to motorists who patch their own tires and tubes.

And what a market has been created! Motorists have learned through actual experience of the absolute dependability of the new Las-Stik Casing Plaster.

They have found that it actually does all that is claimed for it; that it does strengthen the casing; that it does close up the break; that it does make the tire as good as new again.

The proof of the pudding lies in the fact that dealers and jobbers who stocked plasters from the beginning are sending in repeat orders; that we have *sold* more plasters in the first four months of 1927 than in all twelve of 1926.

Las-Stik Casing Plasters are made in 5 sizes and sold in single dozens and in dozen and three-dozen assortments.

LAS-STIK PATCH MFG. CO.

Hamilton, Ohio





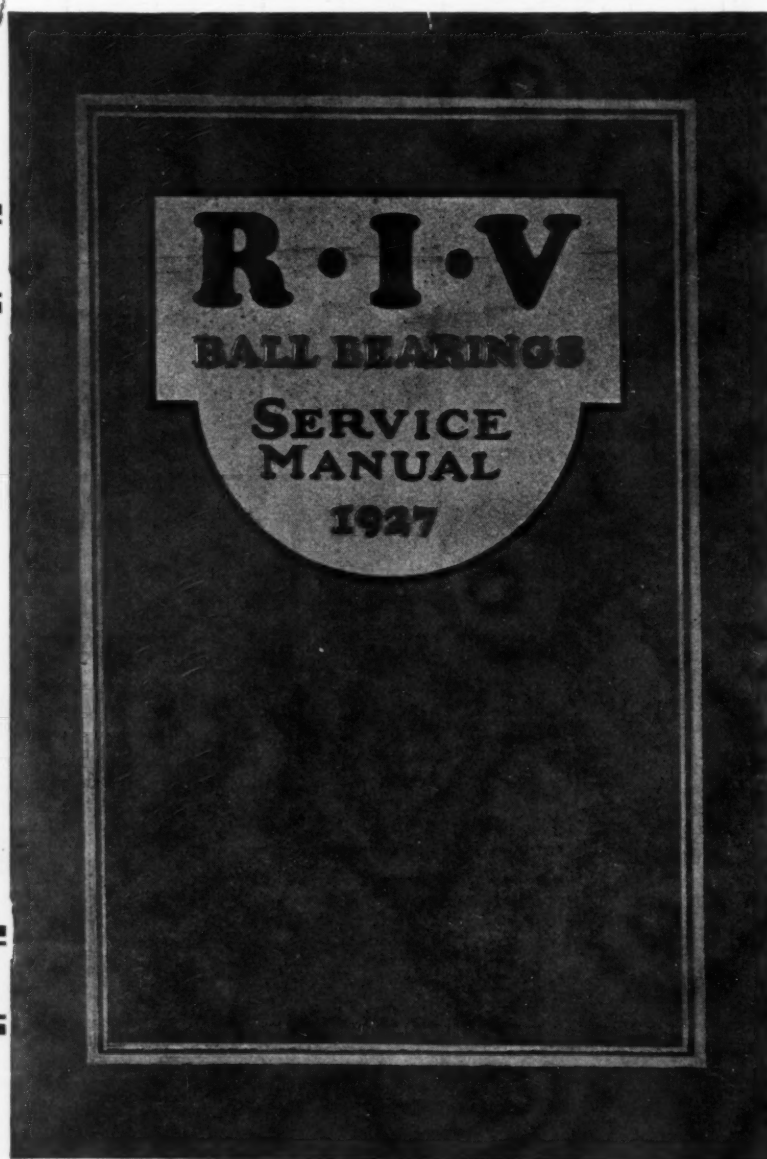
## Note the New All Traction Tread

The Vulco "All-Traction" Tread is rapidly becoming recognized as one of the really big steps forward in balloon tire construction. Note the small pattern of the non-skid which greatly increases the tread's ground-grip. Better traction naturally results in longer wear—and Vulco Balloons with the new "All-Traction" Tread are now piling up even longer mileage records than ever before.

# VULCO TIRES

Manufactured by The Gates Rubber Company, Denver, U. S. A.





*A Manual designed to help  
Replacement Parts dealers  
to get accurate information  
quickly*

**Fresh  
Off  
the  
Press**

## *Your Copy is Ready*

This Service Manual is offered to the Replacement Parts trade with full confidence that it will prove to be a useful index of ball-bearing installations. The information is compressed, and arranged so simply that it is a model of easy reference.

We constantly hold more than half a million ball bearings in stock in New York and Montreal. Therefore we are in position to

deliver all service orders the day received—and are unusually well equipped to furnish the odd, or slow-moving sizes so hard to get when you need them. It might be a good idea to ask for our proposition at the same time you ask for the new Service Manual.

You may get your copy by writing on your business letterhead.

**R. I. V. CO., Inc.**

Fifty-seventh Street at Broadway, Fisk Building  
New York City

*Branches at Detroit, San Francisco, Boston and Montreal*

# VALVE SEAT REAMER SETS



SET NO. 38 NET PRICE COMPLETE \$30

## SIoux

Trade Mark Reg.

U.S. Patent Office

**90% of all motors** are handled by the No. 38 Set. Such complete reamer equipment at such small cost is made possible by the Sioux Universal Type Reamers, each of which can be used on valve seats of several different sizes. Above set includes 45° Roughing Reamer which removes hard deposits easily and quickly; 45° Finishing Reamer; 15° and 75° Nicked Tooth Reamers for narrowing valve seats; 5-16 and 5-8 inch pilot stems with .001, .002, and .003 oversizes in each size for use in worn guide holes to assure the snug fit necessary for a perfect job—the fastest and most accurate method of refacing valve seats in proper alignment with the guide holes.

Sioux Reamer Sets also furnished in Special service station sets for all cars.

ALBERTSON & CO.

SIoux CITY, IOWA, U.S.A.

**Your Jobber Sells Them**



**FRANKLIN**

**AUBURN**  
ESTABLISHED 1900

**ADVANCED NASH SIX**

**ESSEX SUPER SIX**

**JORDAN**

**DIANA**

**SPECIAL NASH SIX**

**CHRYSLER**

**HUDSON**  
MOTOR CARS CO.  
DETROIT MICH.  
U.S.A.

**STEARNS-KNIGHT**

## They Had to Have a Modern Jack

THESE leading car manufacturers chose the Walker 520 double-extension-screw jack as standard equipment because it is truly modern—and meets every requirement for changing tires on the new low-swung, balloon-tired cars.

With its skid base, this jack is easily slid right under the axle or spring clip; its screw within a screw principle enables it to get way down low and still raise the wheel high and clear of everything. Because of the reduction gears and ball-bearings an average lift of one wheel requires only eleven pounds pressure on the crank handle.

Hundreds of car owners in your vicinity need this modern jack. Ask your jobber salesman for a demonstration.

Walker Manufacturing Company  
Racine, Wisconsin

# Walker Jacks

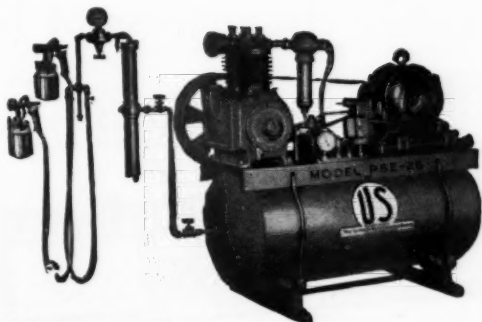
*"Dependable" in Service*

Height 7½ inches.  
Raise 8½ inches.  
Capacity 1 ton. 39 inch folding crank handle.

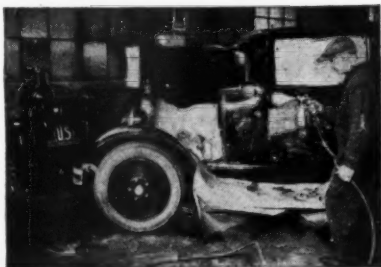
List Price  
\$5.00

Slightly higher west of Denver and in Canada

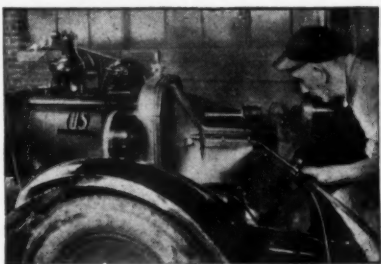
# Air Pays Profits With U. S. Combination Units



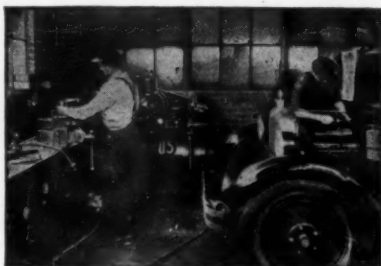
*This model*



*—does this*



*—and this*



*—or this*

WHERE compressed air once was used only to supply the *free* service of inflating tires, it now performs a multitude of *profit-producing* jobs for the modern garage or automobile service station. Under the modern flat rate service charge plan this is vital.

U. S. has perfected new double-duty equipments especially for car dealers and garages. These units supply *volume air at both high and low pressure* for the ordinary purposes and in addition, for paint spraying, cleaning motors, cleaning parts at the bench, blowing carbon, spraying springs with penetrating oil, operating pneumatic doors, gasoline systems, air lift grease racks and high pressure lubricating systems.

Model PSE-26, will supply sufficient low pressure air for the continuous operation of two paint guns, or for one paint gun and ample high pressure air for dozens of profitable operations.

The design and construction of this Model PSE-26, which is the twin-cylinder, air-cooled, single-stage type, assures by the perfectly balanced piston action much greater service than the large bore, single cylinder compressor of similar cubic feet displacement.

Models PSE-5 and PSE-6 are designed for one gun paint spray operation and limited tire inflation or other uses in the average sized garage.

U. S. also manufactures all standard sizes of self-contained, automatic air compressors and totally enclosed, self-oiling, high pressure hydraulic car wash units. U. S. equipment is endorsed by leading car manufacturers in their new shop manuals to their dealers and distributors.

## THE UNITED STATES AIR COMPRESSOR COMPANY

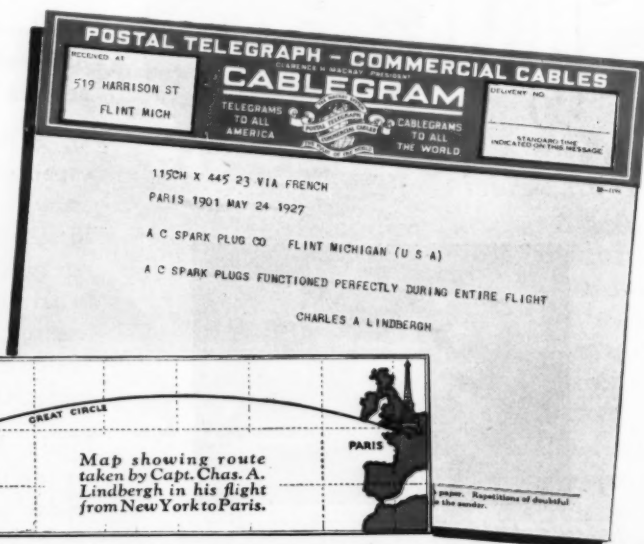
General Office and Factory: 5304 Harvard Ave., Cleveland, Ohio  
Eastern and Export Office: Fisk Building, New York City  
Western Office: 927 Santa Fe Ave., Los Angeles, Cal.  
Cable Address "Airpressor"—All Codes

<p>Please Check</p> <p><b>AIR COMPRESSORS</b> <input type="checkbox"/></p> <p><b>PAINT SPRAY</b> <input type="checkbox"/></p> <p><b>CAR WASH EQUIPMENT</b> <input type="checkbox"/></p>	<p>The United States Air Compressor Company. Cleveland, Ohio, U. S. A.</p>	<p>Print Name</p> <p>NAME _____</p> <p>ADDRESS _____</p> <p>CITY _____</p>
---	--	--



Lindbergh has been called "Lucky" but he took only the necessary risks. He used every safeguard, not only to protect his life and plane, but to assure the success of his undertaking

"Spirit of St. Louis," sturdy monoplane, which carried Capt. Lindbergh through fog, rain and sleet to his goal.



Map showing route taken by Capt. Chas. A. Lindbergh in his flight from New York to Paris.

For his epoch making flight, AC Spark Plugs were the deliberate choice of Capt. Charles A. Lindbergh.

AC Spark Plugs were also used in the Bellanca plane piloted by Bert Acosta and Clarence D. Chamberlin, which established a new world's record for continuous flying of 51 hours, 11 minutes and 25 seconds.

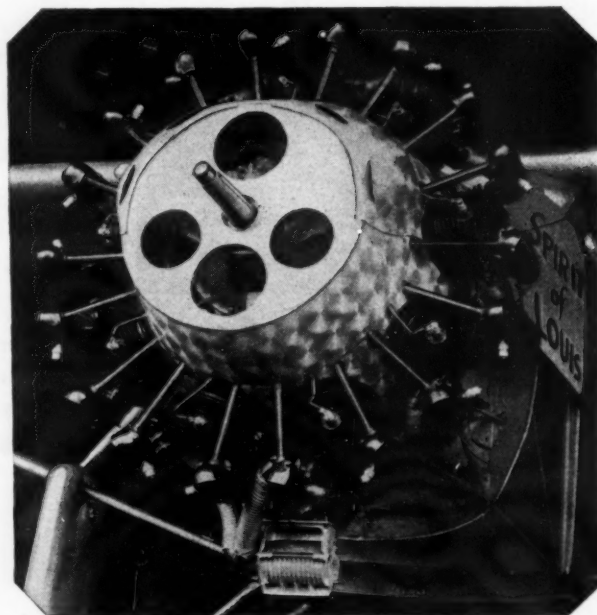
Both of these flights were made with Wright "Whirlwind" engines.

From the work done to meet the requirements of aviation, has come the development of such highly efficient units as AC Spark Plugs. The net result is the attainment of higher and still higher quality, from which the public gets a real and lasting benefit.

AC's are all made with the same insulation, the same quality of electrodes and embody the same basic design as used by Capt. Lindbergh and other record breaking aviators, racing drivers and speed boat pilots.

AC Spark Plug Company, FLINT, Michigan

AC-SPHINX	Makers of AC Spark Plugs	AC-TITAN
Birmingham	AC Speedometers—AC Air Cleaners	Levallois-Perret
ENGLAND	AC Oil Filters—AC Gasoline Strainers	FRANCE



Photograph © 1927, P & A Photos

The Wright "Whirlwind" engine in Capt. Lindbergh's plane, "Spirit of St. Louis," showing AC Spark Plugs used on epoch making flight.

Over 200 of the world's most successful manufacturers use one or more, or all of these AC Products

AC SPARK PLUGS

AC SPEEDOMETERS

AC AIR CLEANERS

AC OIL FILTERS



Home of Minute-Man Service

## This Unique Organization Shortens Your Road to Success

**D**O YOU KNOW that in all America there is no other house like The Harry Alter Company; none that offers the retail tire and accessory dealer so many short cuts to prosperity?

It is a strictly wholesale business, selling almost entirely by mail to over 65,000 legitimate dealers who buy from monthly catalogs, originated and copyrighted by this company.

It buys for cash in enormous quantities—often taking a factory's entire output. And it sells on a close margin for cash only. It creates these and other great savings which result in amazingly lower prices for standard, guaranteed merchandise.

It does not deal in "job lots" or "seconds" and confines its sales to recognized dealers only, going to great lengths to be sure of a customer's right to buy wholesale. It requires no payments in advance, enabling these dealers to use their money up to the hour of delivery and operate on small capital.

If you do not receive The Harry Alter Co., monthly catalogs please write for sample copies and compare prices and service.

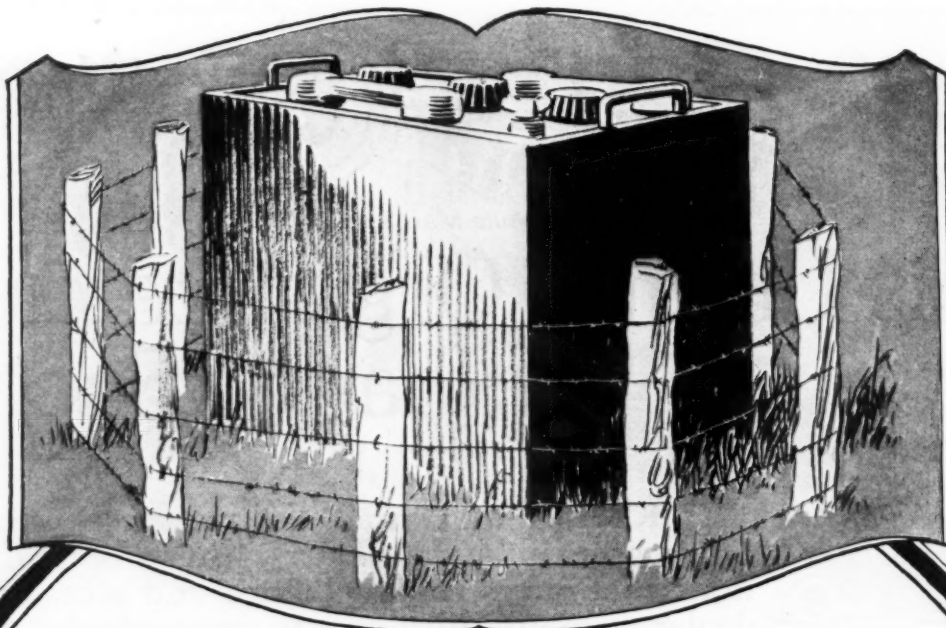
# The Harry Alter Company



**Tires, Tubes  
Accessories**

**Radio & Electrical  
Apparatus**





## Not a Fenced-In Battery!

The WHITE "A" SOCKET POWER UNIT marks a radical and revolutionary step in radio. It is an absolute realization of a desire entertained by millions of radio owners—a complete A battery eliminator. An independent unit. Relies only upon 110 volt A. C. 60 cycle current for operation. No storage cells. Stores no current. Never becomes discharged—never requires charging. Is not affected by disuse or constant employment or change of line voltage. Delivers 6-volt

D. C. current in ratio of  $2\frac{1}{4}$  amperes; ample for any set up to 9 tubes. Automatic switch controls B Battery eliminator, if plugged into socket provided. A noteworthy engineering achievement, a perfected absolutely dependable A battery eliminator. Simple. Sturdy. Trouble free. Enclosed in beautiful 20 gauge metal case, finished in attractive moss green Duco. Hurry along your request today for complete descriptive matter, live dealer helps and money-making proposition.

**Julian M. White Mfg. Co., Sioux City, Iowa**

*Our complete line of "A", "B" and "A & B" Power Units gives a wide active range of sales.*



White "A" Socket Power is licensed by Andrews-Hammond Corporation under Andrews' Condenser and other Andrews-Hammond patent applications.

**White**  
"A" SOCKET POWER UNIT

17

Julian M. White Mfg. Co.  
Sioux City, Iowa

Kindly send complete information regarding White "A" Socket Power Units and quote dealer's discounts.

Name .....

Address .....

## Are your customers your friends?

Make your customers your friends. It's the easiest way to make a living.

A smile, a polite "Good morning," a small service that costs you nothing but a moment's time — dozens of things in the course of a day will make your customers like you.

That is your best fortification against competition. It is often better than price. It is frequently better than anything except quality, or a more sincere brand of courtesy.

Make your customers your friends—and they will keep themselves your customers.

# MOTOR AGE

Chestnut & 56th Sts.  
PHILADELPHIA, PA.

## DUS-PRUF TRUNKS Are Selling FAST!

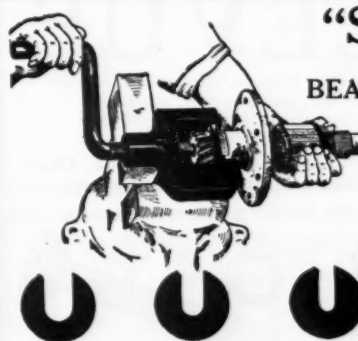


The All Metal Trunk is  
the Choice of Today's Motorist

Fits practically any car. Will not rumble or rattle. Combines beauty, durability and utility. Can be washed just as your car. Automobile manufacturers are specifying ALL METAL TRUNKS.

*Write for Special Dealer Proposition*

DUS-PRUF METAL TRUNK CO.  
414 W. Jefferson Ave. Detroit



## "SAV-TIM" combination BEARING and PINION PULLER

For Ford Armatures  
and Others

*Made of Malleable*

Quickest Puller  
on the Market

PRICE \$3.50

Shipping weight 5 lbs.  
Salesmen Wanted

MONARCH SALES COMPANY

19-25 N. Alabama Street

Indianapolis, Ind.

## Grey-lock BRAKE LINING

The Only Lining With The  
Braking Surface Ground Smooth

*"Its Life Is Double—With Half The Trouble"*

UNITED STATES ASBESTOS CO.  
MANHEIM, PA.



## SIMPLEX Piston Rings

trap oil in the ring grooves instead of draining it away or scraping the cylinder walls dry. The staggered slots give pressure lubrication to the cylinder wall, minimize friction and increase power. No oil pumping, piston slap or compression loss.

Send for the Simplex Method of reconditioning motors without cylinder machinery, and make more money.

**The Simplex Piston Ring Co.  
of America, Inc.**

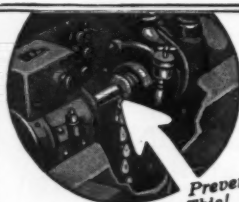
1971 East 66th St., Cleveland, Ohio

## LYCOMING Motors

*Fine Fours, Sixes and Eights-in-Line*

LYCOMING MANUFACTURING COMPANY, Williamsport, Pa.

*Years Ahead in Automobile Motor Efficiency*



### It's a Permanent Repair!

Have a can of CONNEAUT PLASTIC METALLIC PACKING in your garage and be ready for the fellow who says he can't keep his water-pump from leaking. All sizes in one can. Stocked with your jobber.

1 lb. can .....\$1.75 per lb.  
5 lb. can .....1.60 per lb.

Manufactured by

Prevent This! THE CONNEAUT PACKING COMPANY  
Conneaut Ohio

## BELLEVUE

Trunks, Trunk Carriers, Pumps, Bumpers, Jacks

See our combination trunk, trunk carrier, spare tire carrier and bumperette. COMPLETE line for all cars. Write for prices and nearest jobber.

THE BELLEVUE MFG. CO.

Bellevue, Ohio

## Tasco

TRADE MARK REG.

Gas Gauge for Ford

Chevrolet—Overland—Star  
Sells quick at \$1.25 retail. Types "K" and "J" for 1926 Chevrolets and all Stars sell at \$1.50.

THE AKRON-SELLE CO.

AKRON, OHIO



## FOLLETT'S NEW MODEL TIME STAMP

*accounts for every labor minute*



Learn the interesting details from our descriptive data.

Prints the year, month, day, hour, minute, A.M. or P.M. at the exact moment the plunger is pressed—like this, for example:

**NOV 19 1920 4 31 PM**

Tells when a job is started—and when it is finished. There can be no dispute over the time charge.

Absolutely automatic — except for winding. Every machine guaranteed.

Follett Time Recording Co., 217 High Street, Newark, N.J.

*"Established Since 1904"*

**The most successful  
merchandisers keep  
at it every week**

*in*

# MOTOR AGE



## Portable Electric DRILLS

GRINDERS—POLISHERS

*Ask for Catalog 105*

The United States Electric Tool Co. Cincinnati, Ohio, U. S. A.  
*Oldest Builders of Electric Drills and Grinders in the World*

## FREDERICKS Rewinds



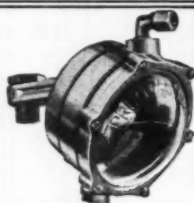
New low prices: Rewinding or exchanging any two unit type of automobile generator or starter armature, \$2.50. Any type of Ford armature \$1.50. Special prices on Ford armatures in quantities.

H. M. FREDERICKS CO., Look Haven, Pa.

# Gilmer

Makers of  
the world's  
best known  
fan belts.

L. H. GILMER & CO., Tacony, Philadelphia



## PROTEX-A-MOTOR GASOLINE PURIFIER

Protects the Entire Gasoline System  
It puts gas through a triple separation from its impurities by straining—by filtration—and in addition by gravity.  
Installed between gas tank and vacuum. Set on self-cleaning 60° angle. Absolutely LEAK-PROOF! Investigate!

PROTEX-A-MOTOR MANUFACTURING CO.  
Pittston, Penna.

## VESTA BATTERIES

VESTA BATTERY CORPORATION

2100 Indiana Ave., Chicago, U. S. A.

*Central Distributors in 65 Leading Centers*

## BRUNNER

AIR COMPRESSORS  
**FREE**

Write for the Book  
"AIR PROFITS"

describing many new uses for compressed air. Shows how to make an air compressor earn greater profits.

BRUNNER MFG. CO.  
UTICA NEW YORK

The  
Greatest  
Repeater  
in the  
Accessory  
Business

**SHALER**  
REG. U. S. PAT. OFF.  
**5 MINUTE VULCANIZER**  
The SHALER Company, Waupun, Wis.  
201 4th Street

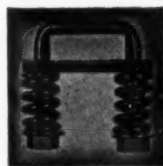
**HALL HONE** \$35.  
*at your Jobber's*  
*Spring and Solid Pressure in one Hone*

WIRE OR WRITE US FOR NEW OR USED  
**TIRES—PARTS—ACCESSORIES**  
IF IT'S FOR AN AUTOMOBILE WE HAVE IT!  
SEE OUR NEXT DISPLAY IN MOTOR AGE  
STATE AUTO PARTS CORPORATION  
2011-13-15 S. State Street, Chicago, Ill.

**STANDITALL**  
AUTO RADIATOR

Damageproof against repeated boilings and freezings. Built to last the full life of the car. Complete radiators for Fords, Chevrolets, Dodges and Maxwells. Cores for all cars and TRUCKS. If not at your jobber's, write direct.

J. C. Black Mfg. Co., Inc., Oil City, Pa.



Pat. Pending

**Orrville Spring Governors**

*Make Smooth-Running Profits*

Among the foremost popular sellers for easier riding. Simple in operation and easy to install. Check the rebound and control the springs against "galloping". Ask for illustrated literature and discounts worth while.

ORRVILLE SPRING GOVERNOR CO., INC.  
500 Brant Bldg. Canton, Ohio

**SCHEBLER**  
"REG. U. S. PAT. OFF."  
*The World's Finest* CARBURETORS

The Wheeler-Schebler Carburetor Co. Indianapolis, U. S. A.



**Here Is Something to Sell!**

A piston ring, on the principle of a packing ring, that gives remarkable results in service, is used in thousands by automobile factory branches for replacement—and have a profit worth while. WRITE FOR DETAILS.

THE CORK-SEALED PISTON RING CORP.  
2332 Michigan Avenue, Chicago

Factory: Denver, Colo.  
Canadian Distributors: Purser, Bull & Co., Ltd.  
Toronto, Canada.

**TIMKEN**  
*Tapered*  
**ROLLER BEARINGS**

**Arrow Head**



**Arrow Head's**

most complete and flexible up-to-date line of pistons and pins assures quick service on the 4000 most-called-for fits and applications, including practically "all motors, all years, all models."

Arrow Head Steel Products Company  
Buffalo Minneapolis, Minn. Chicago

The Jordan is different  
—and always will be.



Jordan Motor Car Company, Inc.  
Cleveland, Ohio



U. S. Canada  
**THOMSON MFG. CO.**  
Dept. 21 Peoria, Ill.

If jobber does not stock  
write direct

Genuine  
**APEX Innerings**

Guaranteed to stop oil pumping  
and piston slap and renew motors  
without re-boring.

**WEIDENHOFF**  
**Shop Equipment**  
**for Battery and Electrical Service**  
4358 Roosevelt Road, Chicago, Ill.

**NEXT WEEK**

—is the time to read next week's issue of MOTOR AGE, as you are reading this week's issue this week

**MOTOR AGE**

Chestnut and 56th Sts.

Phila., Pa.

**JOHNS-MANVILLE**  
**Asbestos Brake Lining**

**PATENTS AND PAT. ATTORNEYS**

**C. L. PARKER**

Ex-Examiner U. S. Patent Office

Attorney-at-Law and Solicitor of Patents

McGill Building, Washington, D. C.

Patent, Trade Mark and Copyright Law

**CLASSIFIED ADVERTISING**

FOR SALE—In Oklahoma oil field town of 30,000, repair shop 24 x 38, machine shop 18 x 24 and office 10 x 14. Concrete floors. Lot 50 feet front by 109 deep, 2½ blocks from Main Street, on well traveled street. Paid out in two years. Equipped for machine work and cylinder grinding. Write for list of tools. \$3,000 cash. Box 6303, care MOTOR AGE.

**CLASSIFIED ADVERTISING RATES**

Ten cents a word is the rate for all undisplayed advertisements set solid, regular want ad style; minimum charge \$1 an insertion. All capitals, 12c a word; all capitals, leaded, 15c a word. Payable in advance.





## How P.D.P. puts speed into Closing Sales!

Nearly 5000 dealers and their salesmen are daily closing orders with our help—and it doesn't cost them a cent.

We pay the purchasers' notes in case of disability in excess of 15 days resulting from sickness, accident or accidental death. *Timid prospects are not afraid of meeting future payments on that basis!*

An Oldsmobile Dealer says: "In 90% of our time sales your Purchasers Disability Insurance clinches the sale."

Ask us for complete information. You can't lose—and you'll be a remarkable exception if you fail to gain.



51 MAIDEN LANE

NEW YORK CITY



### They must Be GOOD!

Get Our  
Special  
Proposition  
for  
Ford  
and  
Chevrolet  
Combination Sets

To be standard equipment in these long lived motors, MOR-POWER Piston Rings MUST BE GOOD.

ALL our rings are cast individually of a superior grade of grey iron with a velvet turned finish and each is thoroughly inspected for flatness, tension and precision. Despite the high quality of MOR-POWER Rings our production enables us to offer them AT LOWER THAN USUAL PRICES—yet with better discounts to you. If your jobber doesn't handle MOR-POWER Rings, write direct mentioning his name.

Superior Piston Ring Co., Inc.  
6429 Epworth Blvd. Detroit, Mich.

## MOR-POWER

SURPASSES OTHERS

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The Advertisers' Index is published as a convenience, and not as a part of the advertising contract. Every care will be taken to index correctly. No allowance will be made for errors or failure to insert.

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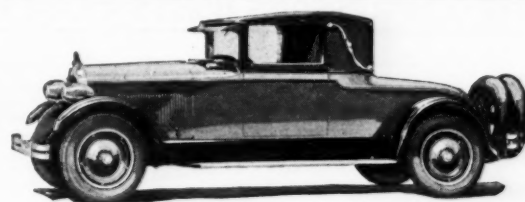
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## Suggest a Second Spare Make a 5-Way Profit!



### DUPLEX

Second spare tire carrier locks both tires securely in place.

Duplex equipment and a second spare tire adds that final touch of beauty and insures care free motoring. Show room models so equipped help new car and accessory sales. Each Duplex sold automatically sells an extra tire, tube, rim and tire cover.

There's a second spare tire carrier for every make and model car. Retail from \$1.00 to \$10.00.

### Get into this 5-way profit game.

Write for complete catalogue. Duplex carriers are carried in stock by National Wheel and Rim Distributors and by leading Accessory Jobbers everywhere.

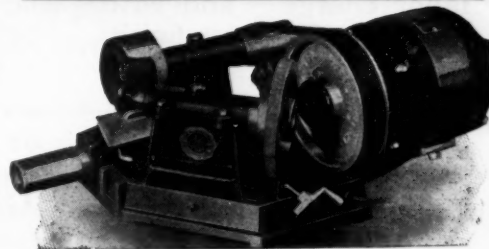
## TRIPP-SECORD & CO.

642 Beaubien Street

Detroit, Mich.

MANUFACTURERS OF AUTOMOTIVE NECESSITIES

*Pay for this  
Needed Equipment  
as you Use it*



## The Crowe CUPPED WHEEL VALVE REFACER

No burdensome investment! Easy terms if you want them! The Crowe reclaims valves perfectly in 30 seconds. The machine is a time-saver—saves money and time—and pays for itself with a few weeks work. Low cost, \$87.50. Guaranteed!

yes

Find out about saving time and making money with this new, wonderful refacer. Mail the coupon today.

LISLE MANUFACTURING CO.

819 East Main Street, Clarinda, Iowa

Without obligation, send me more information about the Crowe Cupped Wheel Valve Refacer.

Name \_\_\_\_\_

Address \_\_\_\_\_

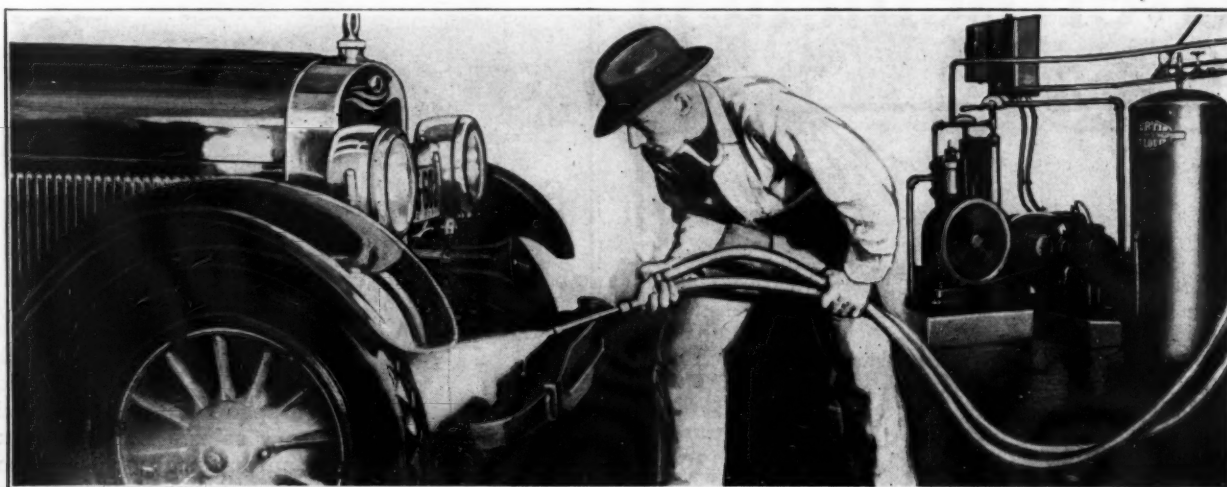
City \_\_\_\_\_

State \_\_\_\_\_

The Lisle Manufacturing Co. also manufactures the new Lisle Reliner (worn brake lining remover, lining cutter, reliner and tire chain mender—all in one). Stickiest tool you ever saw.



## CURTIS COMPRESSORS, HOISTS, CRANES, CAR WASH SYSTEMS, PORTABLE COMPRESSOR UNITS



## Only the Curtis Air-Mist System renders all these services

The Curtis Air-Mist System is, we believe, the fastest, most thorough and most economical method of washing automobiles. But wise operators have found that this is only the beginning of its profit possibilities.

Here are some of the things this system will do:

- (1) Wash cars complete in a few minutes, at the lowest labor charge — and with safety to the finest finish;
- (2) Spray polish on the body;
- (3) Spray oil on the springs;
- (4) Spray-clean the motor;
- (5) Spray rust spots with paint; or
- (6) For a complete refinishing job, spray paint remover;
- (7) Spray new finish equal to the original (because just like the original);

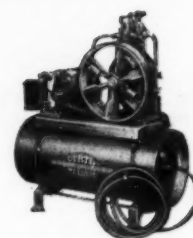
(8) Supply air for tire inflation;

(9) Operate rotating lifts;

(10) Operate air-hoists, chipping and riveting hammers, surface rubbers and many other kinds of tools.

Don't you begin to see undreamed of possibilities in this system for your business? See how it produces revenues that never reached your cash register before.

No matter what kind of a service station or shop you run, the Curtis Air-Mist System makes it possible to increase efficiency and offer many new services to your customers.



**Curtis Style "V" Compressor**

Curtis Compressors are used the world over for supplying air for tire inflation, for car washing, materials handling, rock drilling and the operation of machines and tools of a thousand kinds in factory, field and work-shop. To be sure of reliability, every compressor you ever buy should bear the name "Curtis—St. Louis."

### MAIL COUPON TODAY

CURTIS Pneumatic Machinery Co.  
1957 Kienlen Ave., ST. LOUIS, MO.  
518-U Hudson Terminal, New York City

Gentlemen:  
Please send me, without obligation, your new free AIR-MIST catalogue.

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_



# CURTIS AIR-MIST CAR-WASH SYSTEM

with Westco water amplifier

CURTIS PNEUMATIC MACHINERY COMPANY, ST. LOUIS, U.S.A.

# From New York's Heroic Firemen

This Copy of Order to be Retained by Vendor

**FIRE DEPARTMENT CITY OF NEW YORK**

To **WORLD BESTOS CORP., 52 Courtland St., Paterson**

In conformity with your bid submitted to me under the date of **Repair Shops, 13th Ave. & 56th Street, City.**

of all expense for delivery charges, the following at the prices named, viz.:

Quantity	ARTICLES OR SERVICES	Code #1481-1927
Line #2062-		
BRAKE LINING GRAFILD:-		
37-300 feet	3/16" x 1-1/2"	
38-300	3/16" x 1-3/4"	
39-300	3/16" x 2"	
40-300	3/16" x 2-1/4"	
41-300	3/16" x 2-1/2"	
42-300	3/16" x 2-3/4"	
43-300	3/16" x 3"	
44-300	3/16" x 3-1/4"	
45-300	3/16" x 3-1/2"	
46-300	3/16" x 3-3/4"	
47-300	3/16" x 4"	
48-300	3/16" x 4-1/4"	
49-300	3/16" x 4-1/2"	
50-300	3/16" x 4-3/4"	

Delivery for period ending Mar. 31, 1927.

Cash discount 2% - 30 days after delivery

INVOICES IN QUANTITY TO BE FORWARDED TO REPAIRS AND SUPPLY DEPARTMENT, ROOM NO. 100, MUNICIPAL BUILDING

DATE **FEB 11 1927**

INSTRUCTIONS: All goods to be placed designated and date of the entire order. check, must be

Dealers are warned that their bills will not be paid unless orders for material or services are signed by the Fire Commissioner or Deputy Fire Commissioner.

## PROTECTING LIVES and PROPERTY

New York's heroic firemen protect millions of lives and billions in property at all hours, whatever the weather. Rushing through crowded streets, safety must be assured. To insure safe, sure stops, Grafild Brake Lining has been specified for department apparatus.

### Because Grafild Brake Lining—

1. Holds Wet or Dry; 2. Is graphite filled—prevents scoring of drums; 3. Is the only brake lining that has graphite mixed with crude asbestos; 4. Keeps squeaks out longer, generally eliminating them; 5. Stops car evenly—prevents locking brakes—reduces tire wear; 6. Assures greater safety through less variance in foot pressure.

Car washing, driving rain, slush or puddles, frictional heat, cannot affect the smooth, positive grip of Grafild Brake Lining. Remember, it *holds wet or dry*.

### BRAKE REPAIRMEN

The next time you need brake lining, *buy Grafild*. Let us give you complete information on "Service Testing" and Grafild Brake Lining—More profits for you.

**WORLD BESTOS CORPORATION**

52 Courtland Street, Paterson, N. J.

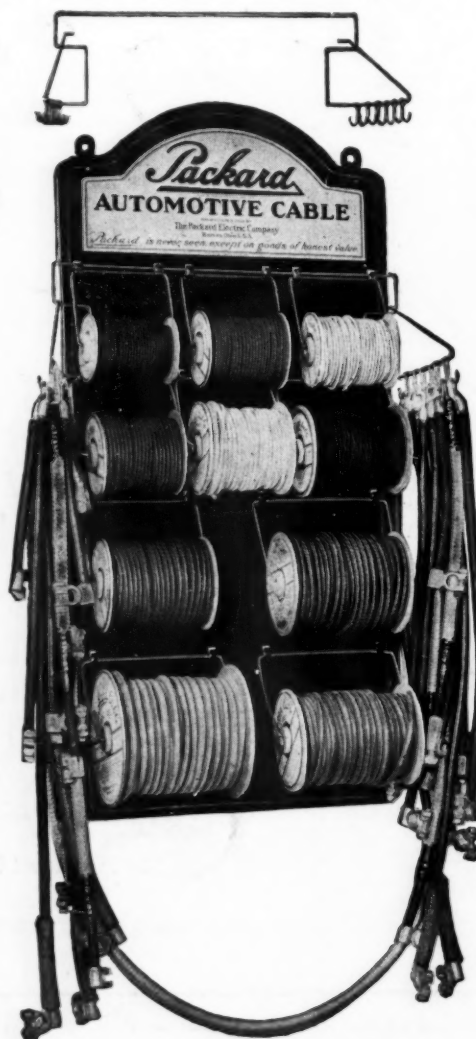
WORLD BESTOS  
**GRAFILD**  
 BRAKE LINING  
*"Holds Wet or Dry"*



# Announcing To Packard Cable Dealers The DeLuxe Merchandiser Adapter

**W**ITH the addition to the Packard Line of a complete line of battery cables and terminals, there was presented the problem of a convenient merchandiser for the thousands of dealers who were already the proud possessors of one of our De Luxe Merchandiser Cable Departments.

The solution to this problem was the adapter illustrated herewith which is supplied free with battery cable assortments to holders of Packard De Luxe Merchandisers.



The De Luxe Merchandiser with the adapter in place and filled with cable is also illustrated. The mounting of this adapter is a very simple matter and once mounted it becomes practically a part of the merchandiser itself, being strong and sturdy and definitely locked in position.

These adapters are available through all Packard Distributors handling the Packard Battery Cable line or you can communicate direct with this office.

For those maintenance dealers who have not already installed a Packard Cable Department, there are available Packard Combination Merchandisers and Assortments which will serve their specific needs to marked advantage. The best way to make money on rewiring jobs is to put in a Packard Cable Department. Ask your Jobber Salesman.

The Packard Electric



Company Warren, Ohio